COAL MINING AND RECLAMATION PERMIT APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Beallsville, OH 43716

Telephone: (740) 926-9152

Permit Number: D-425
Application Number R-425-13

Effective: 08/26/2003
Expires: 10/21/2004

ARP Type:
Add Sediment Pond

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: Michael G Dowden by RLC **Date:** 08/26/2003
Chief, Mineral Resources Management

OPERATOR

F100 Rev: 07/01/2001

AEC 08314

2/96

X New Submittal
Revised Submittal R- 425-13

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

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AUG 1 2003

Note: Refer to the Division's "General Guidelines for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name American Energy Corporation

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone No. 740 - 926 - 9152

2. Permit No. D-0425 .

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AUG 20 2003

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 27, Item G(4), Drainage Control

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   To add pond EBS-3 to the drainage control plan.
   SEE ATTACHED ADDENDA.

5. Describe in detail the reason for requesting the revision:

   To provide sediment control for the affected area. Pond EBS-3 will be used in lieu of ponds EBS-1 and EBS-2 due to the decreased area disturbed. The shaft will not be constructed at this location. Only minor disturbance occurred on the area prior to determining that the site would have to be abandoned. Reclamation is completed as shown on the attached map and all areas to be reclaimed have a good stand of vegetation.

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? ____ Yes, X No.
   (Note: refer to paragraph (E) (2) of 1501 : 13-4-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes", complete the following items 7 through 9.

OPERATOR

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A) (1) of 1501 : 13-05-01 of the Ohio Administrative Code.)

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my knowledge and belief.

Robert D. Moore
Print Name

7-28-03
Date

Signature

President
Title

Sworn before me and subscribed in my presence this 28th day of July 2003.

BARBARA L. ROSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-01-04

Barbara L. Rush
Notary Public

FOR DIVISION USE ONLY

This request is hereby APPROVED

Michael L. Sponaugle

Chief, Division of Mines and Reclamation

8-26-03
Date

April 1989

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

CERTIFICATION 1

CERTIFICATION OF SEDIMENT CONTROL SYSTEM CONSTRUCTION

Permittee's Name AMERICAN ENERGY CORP. Permit D-0425

Complete both certification statements listed below.

A. I, the undersigned, a surveyor or engineer registered in the State of Ohio, hereby certify that the measurements of the constructed sediment control system described below conform to the measurements contained in the ~~approved original~~/"as built"* (specify one) design plan.

STATE OF OHIO ★ DONALD M. BRAFFORD E-29449 ★ REGISTERED PROFESSIONAL ENGINEER

Donald M Brafford P.E. 4-29-03

Signature Title (engineer/surveyor) Date

B. I, the undersigned, an engineer registered in the State of Ohio, hereby certify that the sediment control system described below has been constructed per the ~~approved original~~/"as built"* (specify one) design specifications and criteria and that:

1. the embankment foundation area was cleared of all organic matter and the entire foundation surface scarified;

2. the fill material was free of sod, large roots, other large vegetative matter, frozen soil, and coal processing waste; and

the fill was brought up in horizontal layers of such thickness as required to facilitate compaction in accordance with prudent construction standards.

STATE OF OHIO ★ DONALD M. BRAFFORD E-29449 ★ REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S SEAL

Donald M Brafford 4-29-03

Signature Date

*NOTE: If "as built," then "as built" plan must be attached to this certification.

This sediment control system consists of:

Sediment ponds no. EBS-3, _____, _____, _____,
Diversions (describe in relation to pond numbers).

Other control methods (describe if different from permit descriptions)

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OPERATOR

AEC 08317

9-88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 20
(SEDIMENTATION POND/IMPOUNDMENT DATA SHEET)

Applicant's Name AMERICAN ENERGY CORPORATION AS-BUILT Pond # EBS-3

Type of impoundment EXCAVATED Permanent _____, Temporary X

1. POND DRAINAGE AREA DATA:

a) Drainage area 2.8 acres
b) Disturbed area 2.8 acres
c) Ave. land slope 16 %
d) Hydrologic soil group B & C
e) Hydraulic length 870 ft.
f) Cover/condition of the undisturbed area N/A

2. DESIGN STORM CRITERIA:

a) Method:

1) Design method (s) including computer programs: SEDCAD 4.0

2) SCS curve number 86

b) Rainfall Amount/Peak Flow

	Rainfall, in.	Peak flow, cfs.
1) 10 year, 24 hour =	3.7	6.4
2) 25 year, 24 hour =	4.3	7.7
3) 50 year, 6 hour = (if permanent)		
4) 100 year, 6 hour = (if 20/20 size)		

3. POND SIZE:

a) Dimensions: N/A, POND IS TOTALLY EXCAVATED.

1) Dam height _____ ft.
2) Dam width _____ ft.
3) Dam length _____ ft.
4) Dam downstream slope _____%
5) Dam upstream slope _____ %
6) Core length ____ ft. ____ ft. ___ ft.

b) Sediment storage volume 0.37 ac. ft. is provided below the 1067.0 foot elevation.

c) Stage/Area Data:

	Elevation ft.	Surface Area ac.	Volume ac. ft.
1) Bottom of pond	1061.0	0	0
2) Streambed at upstream toe:	N/A	N/A	N/A
3) Principal spillway inlet:	N/A	N/A	N/A
4) Exit Channel Crest:	1067.0	0.11	0.37
5) Top of embankment:	1069.0	0.15	0.63

OPERATOR

D-0425
AS-BUILT
POND #EBS-3

4. PRINCIPAL SPILLWAY: N/A
   a) Pipe length _____ ft.
   b) Pipe diameter _____ in.
   c) Pipe slope _____ %
   d) Riser diameter _____ in.
   e) Riser height _____ ft.
   f) Type of pipe _____ _____
   g) Number of anti-seep collars _____; spacing along pipe _____ ft.
   h) Does the design include a trash rack? _____ Yes, _____ No.
   i) Does the design include an anti-vortex device? _____ Yes, _____ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

   a) Base width 8 ft.
   b) Design flow depth 0.4 ft. Depth in level section 0.4 ft.
   c) Exit slope 4 %
   d) Exit velocity 2.3 fps
   e) Channel lining GRASS MIXTURE
   f) Side slopes 2:1
   g) Freeboard 1.6 ft.
   h) Entrance slope 50 %
   i) Length of level section 30 ft.

6. The minimum static factor of safety for this impoundment is 1.5

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. Comments:

9. Is this an MSHA structure? _____Yes, X No. If "yes," provide the MSHA ID. number if one has been assigned _____.

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with rule 1501:13-9-04(H) (2) of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of rule 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

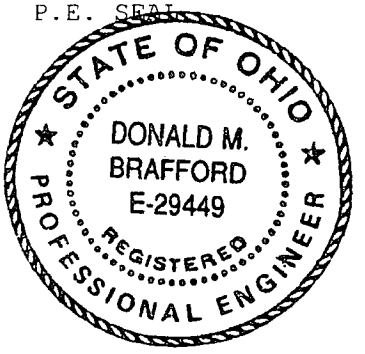
Donald M Brafford

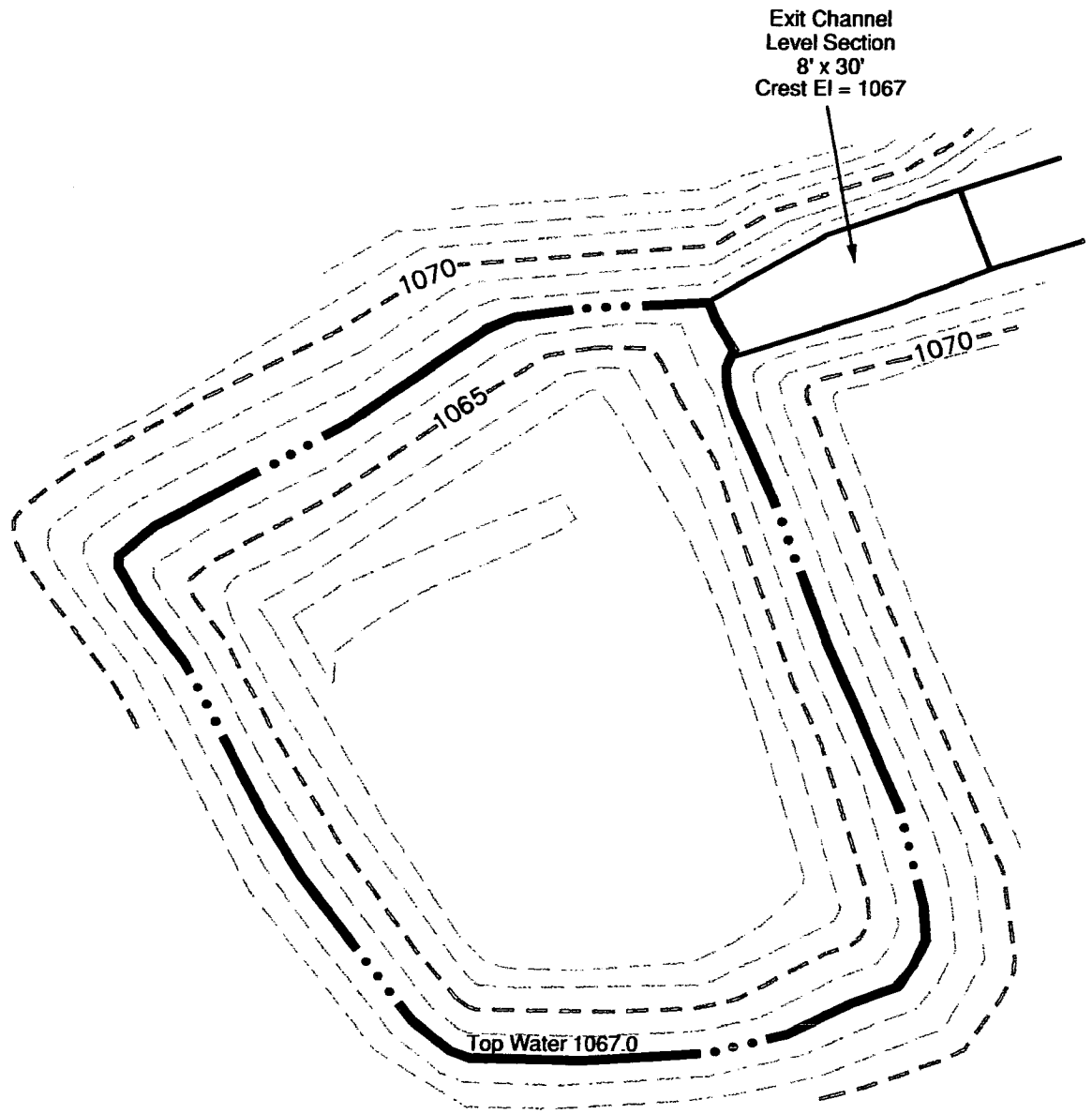
Signature

4-29-03

Date

P.E. SEAL

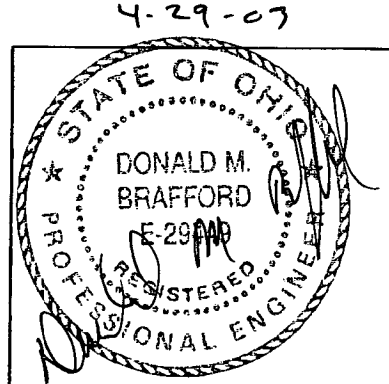




As-Built Pond EBS-3
Plan View

RECEIVED
MAY 1 4 2003
OPERATOR

4-29-03



Addendum To Attachment 20, Item 7.

AS-BUILT POND EBS-3

Applicant: AMERICAN ENERGY CORPORATION		D-0425
Section: 32	Township: 5	Range: 4
Township: WASHINGTON		County: BELMONT
Contour Interval: 1'		Scale: 1" = 20'
Date: 04/14/03		Comm #02001-S

Jack A. HAMILTON & Associates, Inc.
342 High St., Box 471
Flushing, Ohio 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
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AEC 08320

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www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
Land Surveying
Mine Permitting
GIS Data Services
Land Development
Global Positioning Systems

July 31, 2003

Treva J. Knasel
ODNR, Division of Mineral Resources Management
1855 Fountain Square Court
Columbus, Ohio 43224

Re: American Energy Corporation, A.R.P. #R-425-13

Dear Treva,

In response to your letter to Melanie Homan on July 9, 2003, requiring revisions to American Energy Corporation's Application to Revise Permit #R-425-13, the following revision has been completed.

1. Revised to show the disturbed area and diversions directing drainage to Pond EBS-3 on the map as requested.

Provided a revised map date.

Yours truly,

Jack A. Hamilton & Associates, Inc.
Consultants for A.E.C.

Suzie Utter
Permitting

Cathy M. Bihlman, P.S. • Donald M. Brafford, P.E.• Jack A. Hamilton, P.S. • Paul R. Hamilton, P.S.• Charles W. Johnson, P.S.• David J. Siembab, P.S.• Terry L. Steffl, P.S.

2/96

__X__ New Submittal
_____ Revised Submittal R-_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guidelines for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name American Energy Corporation

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone No. 740 - 926 - 9152

2. Permit No. D-0425 .

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 27, Item G(4), Drainage Control

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   To add pond EBS-3 to the drainage control plan.
   SEE ATTACHED ADDENDA.

5. Describe in detail the reason for requesting the revision:

   To provide sediment control for the affected area. Pond EBS-3 will be used in lieu of ponds EBS-1 and EBS-2 due to the decreased area disturbed. The shaft will not be constructed at this location. Only minor disturbance occurred on the area prior to determining that the site would have to be abandoned. Reclamation is completed as shown on the attached map and all areas to be reclaimed have a good stand of vegetation.

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? _____ Yes, __X__ No.
   (Note: refer to paragraph (E) (2) of 1501 : 13-4-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes", complete the following items 7 through 9.

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A) (1) of 1501 : 13-05-01 of the Ohio Administrative Code.)

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my knowledge and belief.

Robert D. Moore
Print Name

7-28-03
Date

Signature

President
Title

Sworn before me and subscribed in my presence this 28th day of July 2003.

BARBARA L. RUSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-01-04

Barbara L. Rush
Notary Public

FOR DIVISION USE ONLY

This request is hereby _____

Chief, Division of Mines and Reclamation

Date

COAL MINING AND RECLAMATION PERMIT APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Beallsville, OH 43716

Telephone: (740) 926-9152

Permit Number: D-425
Application Number R-425-15

Effective: 01/26/2005
Expires: 10/21/2009

ARP Type:
Slurry Line

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: _____ **Date:** 01/26/2005
Chief, Mineral Resources Management

F100 Rev: 07/01/2001

JAN 28 2005

2/96

____ New Submittal
_✓_ Revised Submittal R-425-15

RECEIVED
JAN 19 2005
DIVISION OF MINERAL RESOURCES MANAGEMEN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guideline for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name AMERICAN ENERGY CORPORATION

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone Number 740 - 926 - 9152

2. Permit Number D-0425

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 22, Item A(12)(d)
   Part 3, Page 27, Item G(5)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   This revision includes the plan to repair/replace the failed Slurry Line Captina Creek Stream Crossing. See attached addenda.

5. Describe in detail the reason for requesting the revision:

   This revision has been mandated by ODNR to update a previously approved I.B.R. for construction of a bridge, which was ultimately utilized for the slurry line stream crossing.

6. Will this revision constitute a significant alternation from the mining and reclamation operation contemplated in the original permit? ____ Yes, _X_ No.
   (**Note:** refer to paragraph (E) (2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes," complete the following items 7 through 9.

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

   N/A

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A)(1) of 1501:13-05-01 of the Ohio Administrative Code.)

   N/A

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

   N/A

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my information and belief.

Robert D. Moore — 10/22/04
Print Name — Date

[signature] — President
Signature — Title

Sworn before me and subscribed in my presence this 22nd day of October, 20 04

Denise R. Jackson
Notary Public

DENISE R. JACKSON
Notary Public, State of Ohio
My Commission Expires 9-27-2005

FOR DIVISION USE ONLY

This request is hereby APPROVED.

Michael L. Sponsler by [signature] — 1-26-05
Chief, Division of Mines and Reclamation — Date

ADDENDUM

SLURRY LINE CREEK CROSSING, American Energy Corporation

A 5.1 Acre I.B.R. was submitted in February 2002, and approved in April, 2002 for construction of a bridge across Captina Creek. The bridge was not constructed as planned, and was consequently constructed in a modified manner to provide for the overhead slurry line crossing. The structure failed during the flooding that occurred in mid-September, 2004. The slurry line, with its steel casing protection did not fail, however, is lying in the creek bed.

American Energy Corporation has investigated directional drilling to place the slurry line below the creek. The cost for this option was quoted at a minimum of $158,000.00 minimum. (Total cost would depend on actual conditions encountered). This option is considered cost prohibitive.

Placement of the slurry line in the creek bed has also been investigated. The cost quoted for this option was $30,000.00. American Energy Corp. considers this option as the most timely, with construction commencing immediately upon permitting approvals and completion within one (1) week. The replaced portion of the slurry line will be placed within the stream bed material, above bedrock. The bedrock material will not be disturbed. See attached Water/Slurry Line Crossing Captina Creek profile and cross section.

American Energy Corp. is not considering replacing the slurry line crossing in the overhead position in response to the recent failure, and a possible future failure during a rainfall/flooding event.

The slurry line is constructed of SDR 7.3 high density polyethylene pipe. The SDR 7.3 pipe is a 12.75 inch outside diameter, with a minimum wall thickness of 1.747 inches. The SDR 7.3 pipe is one of the heaviest duty pipes made with a weight of 26.244 lbs./ft. See attached manufacturer's specifications, PIPE DATA, (Table A-1, Table A-2, and Table 2). The slurry pipe was fusion welded when installed. Fusion welds cannot be pulled apart.

Although there is no apparent structural damage or leakage within the slurry line currently lying in the creek bed, American Energy Corp. plans to replace the portion of the pipeline that crosses Captina Creek due to the remote possibility that this portion of the line may have been compromised during the failure of the bridging structure. Please see Statement of Conditions by Donald M. Brafford, P.E.

The slurry line is inspected daily, when in operation, and more frequently during

OPERATOR

rainfall events. A pressure sensor is utilized to automatically shut the line down if a drop in pressure is detected. In the unlikely event that a rupture or leak is detected, the slurry line will be immediately shut down and repaired. If necessary repairs cannot be completed with slurry in the line, it can be emptied into the existing clay lined sump, which has the capacity necessary to hold the entire contents of the slurry line. The sump has an approximate capacity of 277,318 gallons, and the slurry line currently has a total maximum capacity of 232,389 gallons. The sump is located as shown in the approved 3.1 acre IBR-0425-8 (approved 07-01-2003).

The proposed in-stream replacement of the damaged pipelines is planned as follows;

A coffer dam/roadway (fill) will be constructed from one bank to approximately half-way across the stream. A trench will be dug through this fill and into the underlying gravel of the creek bed starting several feet back from the creek end of the fill. The steel casings will be installed in the trench. A 35,000 psi concrete, standard used by ODOT, will be poured over the steel casings. When the concrete has cured, it will be covered with the streambed material, with the end exposed. Then the other half of the coffer dam/roadway and trench will be constructed removing material from the first-half fill. The stream is now diverted over the first-half (completed) side of the crossing. The other steel culverts will be put in place and welded. Concrete will be poured over the casings, will cure, and be covered with the stream bed material. The HDPE pipe will then be pulled through the casings, already in place.

The mass of concrete, rigidity of the steel encasement, and the tension of the HDPE pipe lines attached at the north and south ends to the remainder of the pipeline will prevent the pipe crossing structure from moving downstream during storm events. The fact that the damaged structure in its current location has withstood a similar flooding event, with debris creating additional pressure from the upstream end, is proof of the strength of the steel encasement and HDPE pipe.

Spill prevention and containment for the stream crossing construction is as follows; the slurry line will be turned off, water will be flushed through the pipe. The valve south of the creek will be closed. The water remaining in the line will be emptied into the existing slurry line sump.

Abandonment of the slurry line will consist of rinsing the line, removing any portions of the line that are on the surface (above ground), and permanently capping any remaining underground portions of the line.

Addendum to Part 3, Page 27, Item G(5)
Stream Buffer Zone Variance Request
American Energy Corporation
Slurry Line Creek Crossing

Chief
ODNR, Division of Mineral Resources Management
2045 Morse Road - Bldg. H-3
Columbus, OH 43229-6693

APPROVED ☑
DISAPPROVED ☐
DATE: 1-26-05
SIGNED Michael L. Chief

Dear Chief:

SPECIFIC ACTIVITIES

Captina Creek

Activities to be conducted within the buffer zone of Captina Creek consist of the repair and placement of a slurry line and water line through the creek bed.

This line currently carries slurry from the Century Mine preparation plant to the approved refuse disposal facility on Permit D-0360, and was located on a bridge structure (previously described in the 5.1 acre I.B.R. approved 4/02) across the creek.

For purpose of description, the beginning point of Captina Creek, where the slurry line is within the buffer zone, is approximately 945 feet southeast (downstream) of the intersection of Mike's Run. Captina Creek is influenced upstream (including the North and South Forks) by residential and agricultural activities. Downstream influences include mining, residential, and agricultural. Previous influences from railroad facilities and mining have also occurred in this portion of the buffer zone of Captina Creek.

Existing instream physical habitat conditions consist of cobble and gravel of limestone and sandstone origin, with normal silt and embeddedness. Instream cover is moderate, with undercut banks, shallows, rootmats, and pools. The riparian width is narrow on the right bank and consists of forest, with heavy to severe bank erosion. Riparian width on the left bank is wide, consisting of shrub and old field with moderate bank erosion. Maximum depth is 0.7 to 1.0 meter. Pool width equals riffle width, with moderate to slow velocities. Riffle/run substrates are moderately stable large gravel with low embeddedness. Channel morphology shows low sinuosity, good development, recovered channelization, and moderate stability.

The replacement slurry and water lines will disturb ground within the buffer zone for a distance of approximately 45 feet on the left bank, and 100 feet on the right bank. A coffer dam will be constructed approximately one-half way across the stream channel to divert stream flow while half of the steel encasement replacement pipe is installed. This process will be repeated within the other half of the stream channel to place the remainder of the steel encasement pipe. An approximate 5 foot wide trench will be excavated across the stream channel to allow for placement of the pipe. See Addendum to A.R.P., Slurry Line Creek Crossing for details. Straw and/or hay bales, and if necessary, silt fence will be utilized during installation to prevent additional sediment contribution downstream. Installation of the replacement portion of the slurry line will take approximately two weeks, depending on weather conditions.

The instream portion of the slurry line will remain in place following reclamation. Any portion of the replacement line that is above ground will be removed.

OPERATOR

Due to conditions resulting from the September, 2004, and January, 2005 flooding, riparian vegetation is nearly non-existent in the areas to be affected by the proposed repair and placement of the pipelines. Reconstruction of Captina Creek will not be necessary. The proposed five foot wide trench will be filled and covered as described in the Addendum to the A.R.P., Slurry Line Creek Crossing.

No wetlands are located within these portions of the buffer zone of Captina Creek.

NECESSITY OF ACTIVITIES

September flooding toppled the bridge supports, forcing the bridge structure, slurry line, and water line downstream. It currently rests just above the normal water level, causing debris to build up behind it. To prevent this situation from occurring in the future, American Energy Corporation is placing the slurry line through the creek bed, encased in steel and concrete. The repair and replacement of the damaged portion of the slurry line creek crossing should be considered an emergency situation. Although the line has remained intact, it is under a great deal of stress.

WATER QUALITY/QUANTITY AND ENVIRONMENTAL RESOURCES

Water quality in Captina Creek is good. Water analyses conducted for mine permitting show all parameters within effluent limitations. Captina Creek is a large perennial stream, originating from the Barnesville reservoir. Stream quantity ranges from; 9.0 cfs during low flow conditions, 28.6 cfs during intermediate flow conditions, and a high flow of 338 cfs. Prior to the September flooding event, riparian vegetation within the buffer zone consisted of ferns, wild garlic, and grasses such as oats, fescue, and timothy, with hardwoods such as oak, cottonwood, wild cherry, sycamore, buckeye, willow, and box elder. It will not be necessary to disturb trees during the repair of the slurry line.

SEQUENCING OF OPERATIONS

The slurry line will be turned off, water will be flushed through the pipe. The valve south of the creek will be closed. The water remaining in the line will be emptied into the existing slurry line sump. The damaged portion of the lines will be cut off. The damaged bridge structure will be removed. A coffer dam will be constructed, the stream will be trenched one-half at a time. Steel culvert encasement lines will be placed in the trench first, and concreted in place. When the concrete has cured, it be covered with the streambed material. The HDPE pipe will then be pulled through the in-place steel casings and fusion welded to the ends of the existing exposed line. When installation of the replacement line is complete, the area disturbed within the buffer zone will be regraded and revegetated.

STREAM RECONSTRUCTION, DIVERSION, OR RELOCATION

No stream reconstructions or relocations are proposed for this project. The temporary diversion of the stream necessary for placement of the pipes is described in the Addendum to the ARP, Slurry Line Stream Crossing. The issue of buffer zone affects and locations of activities are addressed in the previous sections of this document. Normal site maintenance will be carried on throughout the life of the associated mining operation.

Following the in-stream installation of the pipelines, flooding will no longer be a threat to the stability of the structure.

REVEGETATION

The following species and amounts of vegetation and /or trees and shrubs will be planted a minimum width of two and one half times the channel bottom width where any disturbance within the buffer zone has occurred.

Species	Amounts/Rate (lbs./Ac.)
Grasses and Legumes	
Perennial Ryegrass	5 lbs./Ac.
Foxtail Millet	5 lbs./Ac.
Red Top	3 lbs./Ac.
Birdsfoot Trefoil	5 lbs./Ac.
Appalow Lespedeza	15 lbs./Ac.
Trees and Shrubs	
Green Ash, Sycamore, Button Bush	Rows will be spread four (4) feet apart, with a Staggered eight (8) foot spacing between Seedlings/cuttings.

Trees and shrubs will be planted as described above. Areas planted with riparian vegetation will not be cut or mowed so as to encourage the development of volunteer vegetation. Species of trees, shrubs, grasses and legumes which appear naturally will not be removed but will remain to enhance wildlife environment along the streams.

Care will be taken to disturb only that portion of the buffer zone necessary to accomplish the objectives of this project. All work within the buffer zone will be performed in a timely and workmanlike manner to avoid, as best can be accomplished, detrimental effects on the stream.

Yours truly,

Ellen Green

PIPE DATA

Table A-1
NOMINAL PHYSICAL PROPERTIES
POLYPIPE® PE3408 AND PE2406 PIPE MATERIAL

PROPERTY	ASTM TEST METHOD	Nominal Value* PE3408	PE2406
Cell Classification	D3350	345464C	234363E
Density, Natural	D1505	0.946 gm/cc	0.940 gm/cc
Density, Black	D1505	0.955 gm/cc	0.943 gm/cc
Melt Index (190°C/2.16 kg)	D1238	0.07 gm/10 min	0.2 gm/10 min
Flow Rate (190°C/21.6 kg)	D1238	8.5 gm/10 min	20 gm/10 min
Flexural Modulus	D790	136,000 psi	100,000 psi
Elastic Modulus: short-term	D638	125,000 psi	100,000 psi
Elastic Modulus: long-term	D638	30,000 psi	25,000 psi
Tensile Strength @ Yield	D638	3,500 psi	2,800 psi
ESCR	D1693	>10,000 hrs. failure	>10,000 hrs. failure
Slow Crack Growth, PENT	F1473	>100 hrs.	>1,000 hrs.
HDB @ 73.4°F	D2837	1,600 psi	1,250 psi
HDB @ 140°F	D2837	800 psi	800 psi
UV Stabilizer (Carbon)	D1603	2.5%	2.5%
Brittleness Temperature	D746	<-180°F	<-180°F
Melting Point	D789	261°F	261°F
Vicat Softening Temperature	D1525	255°F	248°F
Hardness	D2240	64	64 Shore D
Izod Impact Strength (Notched)	D256	7 ft-lb$_f$/in	10 ft-lb$_f$/in
Thermal Expansion Coefficient	D696	1.0 x 10^{-4} in/in/°F	1.0 x 10^{-4} in/in/°F
Poisson's Ratio	--	0.42	0.42
Manning Roughness	--	0.01	0.01
Volume Resistivity	D991	2.6 x 10^{16} Ω-cm	2.6 x 10^{16} Ω-cm
Average Molecular Weight	GPC	330,000	330,000

*Note: Nominal values are not intended as specification limits.

AEC 08332

Table A-2 (cont.)
PIPE WEIGHTS AND DIMENSIONS *(IPS)*
PE3408 *(BLACK)*

OD			SDR	Nominal ID		Minimum Wall		Weight	
Nominal	Actual							lb. per	kg. per
in.	in.	mm.		in.	mm.	in.	mm.	foot	meter
			7	6.06	153.98	1.232	31.30	12.433	18.503
			7.3	6.17	156.65	1.182	30.01	12.010	17.872
			9	6.63	168.44	0.958	24.34	10.054	14.962
			9.3	6.70	170.08	0.927	23.56	9.771	14.541
			11	6.99	177.65	0.784	19.92	8.425	12.538
8	8.625	219.08	11.5	7.07	179.45	0.750	19.05	8.096	12.049
			13.5	7.30	185.32	0.639	16.23	7.001	10.418
			15.5	7.47	189.68	0.556	14.13	6.164	9.174
			17	7.57	192.27	0.507	12.89	5.657	8.418
			21	7.77	197.38	0.411	10.43	4.637	6.901
			26	7.94	201.55	0.332	8.43	3.784	5.631
			7	7.56	191.92	1.536	39.01	19.314	28.743
			7.3	7.69	195.25	1.473	37.40	18.656	27.764
			9	8.27	209.95	1.194	30.34	15.618	23.242
			9.3	8.35	211.98	1.156	29.36	15.179	22.589
			11	8.72	221.42	0.977	24.82	13.089	19.478
10	10.750	273.05	11.5	8.81	223.66	0.935	23.74	12.578	18.717
			13.5	9.09	230.98	0.796	20.23	10.875	16.184
			15.5	9.31	236.41	0.694	17.62	9.576	14.251
			17	9.43	239.64	0.632	16.06	8.788	13.078
			21	9.69	246.01	0.512	13.00	7.204	10.721
			26	9.89	251.21	0.413	10.50	5.878	8.748
			32.5	10.06	255.57	0.331	8.40	4.742	7.058
			7	8.96	227.62	1.821	46.26	27.170	40.433
			7.3	9.12	231.57	1.747	44.36	26.244	39.056
			9	9.80	249.00	1.417	35.98	21.970	32.695
			9.3	9.90	251.42	1.371	34.82	21.353	31.777
			11	10.34	262.61	1.159	29.44	18.412	27.400
12	12.750	323.85	11.5	10.44	265.28	1.109	28.16	17.693	26.330
			13.5	10.79	273.95	0.944	23.99	15.298	22.767
			15.5	11.04	280.39	0.823	20.89	13.471	20.047
			17	11.19	284.23	0.750	19.05	12.362	18.397
			21	11.49	291.77	0.607	15.42	10.134	15.081
			26	11.73	297.94	0.490	12.46	8.269	12.305
			32.5	11.93	303.12	0.392	9.96	6.671	9.928
			7	9.84	249.94	2.000	50.80	32.758	48.750
			7.3	10.01	254.28	1.918	48.71	31.642	47.089
			9	10.76	273.42	1.556	39.51	26.489	39.420
			9.3	10.87	276.07	1.505	38.24	25.745	38.313
			11	11.35	288.36	1.273	32.33	22.199	33.036
14	14.000	355.60	11.5	11.47	291.28	1.217	30.92	21.332	31.746
			13.5	11.84	300.81	1.037	26.34	18.445	27.449
			15.5	12.12	307.88	0.903	22.94	16.242	24.170
			17	12.29	312.09	0.824	20.92	14.905	22.181
			21	12.61	320.38	0.667	16.93	12.218	18.183
			26	12.88	327.15	0.538	13.68	9.970	14.836
			32.5	13.10	332.84	0.431	10.94	8.044	11.970

(See ASTM D3035, F714 and AWWA C-901/906 for OD and wall thickness tolerances).
(Weights are calculated in accordance with PPI TR-7).

AEC 08333

Dimensions of Nipak PE 3408 High Density Polyethylene Pipe

TABLE 2

Nominal IPS Diameter (Inches)	Actual Outside Diameter (inches)	SDR 7.3 (250 PSI)*		SDR 9 (200 PSI)*		SDR 11 (160 PSI)*		SDR 13.5 (125 PSI)*		SDR 15.5 (110 PSI)*	
		Minimum Wall (Inches	Weight (lb/ft)	Minimum Wall (inches)	Weight (lb/ft)	Minimum Wall (inches)	Weight (lb/ft)	Minimum Wall (Inches)	Weight (lb/ft)	Minimum Wall (Inches)	Weight (lb/ft)
2	2.375	0.326	0.92	0.264	0.77	0.216	0.64	—	—	—	—
3	3.500	0.480	1.99	0.389	1.66	0.318	1.39	0.259	1.15	0.226	1.02
4	4.500	0.616	3.28	0.500	2.74	0.409	2.30	0.333	1.90	0.290	1.68
5	5.563	0.762	5.02	0.618	4.19	0.506	3.51	0.412	2.91	0.359	2.56
6	6.625	0.908	7.12	0.736	5.95	0.602	4.98	0.491	4.13	0.427	3.63
8	8.625	1.182	12.07	0.958	10.07	0.784	8.43	0.639	7.00	0.556	6.15
10	10.750	1.473	18.75	1.194	15.65	0.977	13.10	0.796	10.87	0.694	9.57
12	12.750	1.747	26.37	1.417	22.03	1.159	18.43	0.944	15.29	0.823	13.47
14	14.000	1.918	31.79	1.556	26.57	1.273	22.23	1.037	18.44	0.903	16.23
16	16.000	—	—	1.778	34.69	1.455	29.04	1.185	24.09	1.032	21.19
18	18.000	—	—	2.000	43.90	1.636	36.73	1.333	30.48	1.161	26.82
20	20.000	—	—	—	—	1.818	45.35	1.481	37.63	1.290	33.11
22	22.000	—	—	—	—	2.000	54.88	1.630	45.55	1.419	40.07
24	24.000	—	—	—	—	—	—	1.777	54.18	1.548	47.68

Nominal IPS Diameter (Inches)	Actual Outside Diameter (Inches)	SDR 17 (100 PSI)*		SDR 21 (80 PSI)*		SDR 26 (60 PSI)*		SDR 32.5 (50 PSI)*	
		Minimum Wall (Inches)	Weight (lb/ft)	Minimum Wall (Inches)	Weight (lb/ft)	Minumum Wall (Inches)	Weight (lb/ft)	Minimum Wall (Inches)	Weight (lb/ft)
3	3.500	0.206	0.93	0.167	0.76	—	—	—	—
4	4.500	0.265	1.54	0.215	1.26	—	—	—	—
5	5.563	0.327	2.34	0.265	1.93	—	—	—	—
6	6.625	0.390	3.34	0.316	2.74	0.255	2.23	0.204	1.80
8	8.625	0.508	5.65	0.411	4.63	0.332	3.78	0.266	3.05
10	10.750	0.633	8.79	0.512	7.19	0.414	5.87	0.331	4.73
12	12.750	0.750	12.34	0.608	10.13	0.491	8.26	0.393	6.66
14	14.000	0.824	14.90	0.667	12.20	0.539	9.95	0.431	8.02
16	16.000	0.942	19.46	0.762	15.93	0.616	13.00	0.492	10.47
18	18.000	1.059	24.61	0.858	20.18	0.693	16.46	0.554	13.26
20	20.000	1.176	30.37	0.952	24.88	0.769	20.29	0.615	16.36
22	22.000	1.294	36.76	1.048	30.13	0.846	24.55	0.677	19.81
24	24.000	1.412	43.76	1.143	35.84	0.923	29.22	0.738	23.55
28	28.000	1.647	59.55	1.333	48.77	1.077	39.78	0.862	32.09
36	36.000	2.118	98.46	1.715	80.67	1.385	65.77	1.108	53.04

*Pressure rating for water at 73 ble 17, page 9-2 for additional pressure

Standard pipe lengths: 40 feet

Nipak high density polyethylene diameters from ½" CTS to 2" IPS. 3" IPS pi

Metric sizes and special sizes are available on special order.

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AEC 08334

STATEMENT OF CONDITIONS AT THE CENTURY MINE PIPELINE CROSSING OF CAPTINA CREEK

The pipe bridge carrying twin heavy walled HDPE pipe slurry lines was overturned during the September 17, 2004 storms which passed through the Ohio River Valley. The bridge carried the pipelines across Captina Creek at the Century Mine in Belmont County, Ohio.

The condition was reported to Jack A. Hamilton & Associates, Inc. During early October, 2004. On October 14, 2004, a site visit was made to observe the conditions at the site. Findings of those observations were:

1.) Both support piers have been pushed over and are resting at an approximate 45 degree angle.

2.) The footings are still attached to the piers.

3.) The pipelines have been displaced horizontally by an undetermined amount due to the rotation of the piers.

4.) The structural steel pipe support structure is still attached to the piers. It is composed of two beams. The dimensions were not observed..

5.) The bridge beams have failed in the weak axis direction. They cannot be salvaged.

6.) In addition to the horizontal displacement described above, both pipelines are sagging.

The upstream line is still partially supported by the bridge beams. This pipe has sagged by approximately 1½ to 2 feet.

The downstream line is not supported and is hanging approximately 1½ feet below the upstream pipe at the low point.

7.) The steel casing pipes which carried the pipes across the bridge are now being partially supported by the slurry pipes.

8.) Although the slurry pipes are obviously under strain, there are no indications of slurry pipe failure at this time.

9.) There are no severe pinch points in the pipes although a bend is present at each end of the pipes where they bend vertically downward from the shore points.

The Century Mine proposes to remove the structural support system and damaged sections of the pipe lines. Enough new material will be added to provide sufficient length to allow the pipelines to be buried across Captina Creek. This will be done just as soon as the required permitting can be obtained. The current plan is to have the work completed prior to the onset of winter (freezing) weather.

It is our recommendation that the pipeline be inspected by a manufacturer's representative prior to beginning the proposed installation in order to assure that no damage has occurred to the pipe material which will be left in place because of the structural failure of the bridge. The mining company should also consult with the manufacturer's representative to ascertain allowable bending or the need for fittings when the pipe trench is transitioned through the stream banks.

JACK A. HAMILTON & ASSOCIATES, INC.

Donald M. Brafford, P.E.
Civil Engineer

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

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REPLY TO
ATTENTION OF:

January 21, 2005

Operations Division
Regulatory Branch
200401920

Treva Knasel
Environmental Specialist
Ohio Division of Mineral Resources
1855 Fountain Square Ct., Bldg. H-3
Columbus, Ohio 43224

Dear Ms. Knasel:

I refer to American Energy Corporation (A.E.C.) proposal to repair an existing slurry line crossing Captina Creek in Belmont County, Ohio for their American Century Mine (D-0425).

On December 20, 2004, this office received a Department of the Army permit application to replace an existing aerial crossing which was damaged by storms generated by hurricane Frances and Ivan. The proposed project includes a trench approximately 4 1/2 feet wide and 3 feet deep being excavated across Captina Creek. Two new slurry lines will be positioned in the trench and a 2 foot deep concrete encasement will be placed around the pipes. The remainder of the trench will be backfilled with the same material which was removed originally from the creek. The area of the stream to be impacted is approximately 2200 square feet or 0.05 acres.

Activities associated with projects of this type are authorized by Nationwide Permit No.12 (see enclosure), previously issued by the Corps of Engineers, for purposes of Section 404 of the Clean Water Act as published in the January 15, 2002 issue of the Federal Register.

Enclosed is a list of conditions which must be followed for the Nationwide Permit to be valid. Adherence to these conditions will permit American Energy Corporation to proceed with the proposed project. **Please Note**, the attached Compliance Certification Form must be signed and returned to this office upon completion of the proposed work.

The verification of this Nationwide Permit is valid until January 21, 2007 unless the Nationwide Permit is modified, suspended, or revoked. If project specifications are changed or work has not been initiated before January 21, 2007, please contact this office for further approval.

The issuance of this Nationwide Permit will not relieve A.E.C. of the responsibility to obtain any other required state, local, or Federal authorizations.

If you have any questions, please contact Allen Edris at (412) 395-7158.

Sincerely,

Michael J. Cummings, Jr.
Chief, Regulatory Branch

Enclosure
CF: ODNR (Dave Clark)
ODNR (Kevin Ricks)
ODNR (Jamie Judge)
OEPA (Dan Osterfeld)

Compliance Certification Form

PERMIT NUMBER: 200401920

NAME OF PERMITTEE: American Energy Corporation

DATE OF ISSUANCE: January 21, 2005

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Pittsburgh District
Regulatory Branch, Room 1834
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Please note that your permitted activity is subject to compliance inspection by a U.S. Army Corps of Engineers Representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

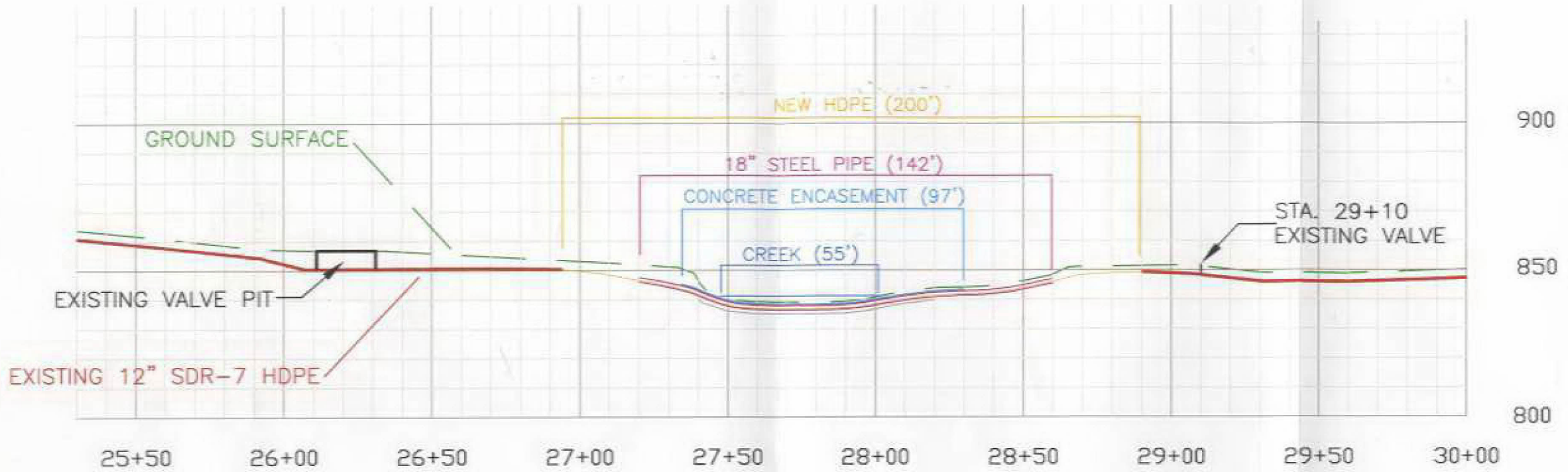
I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

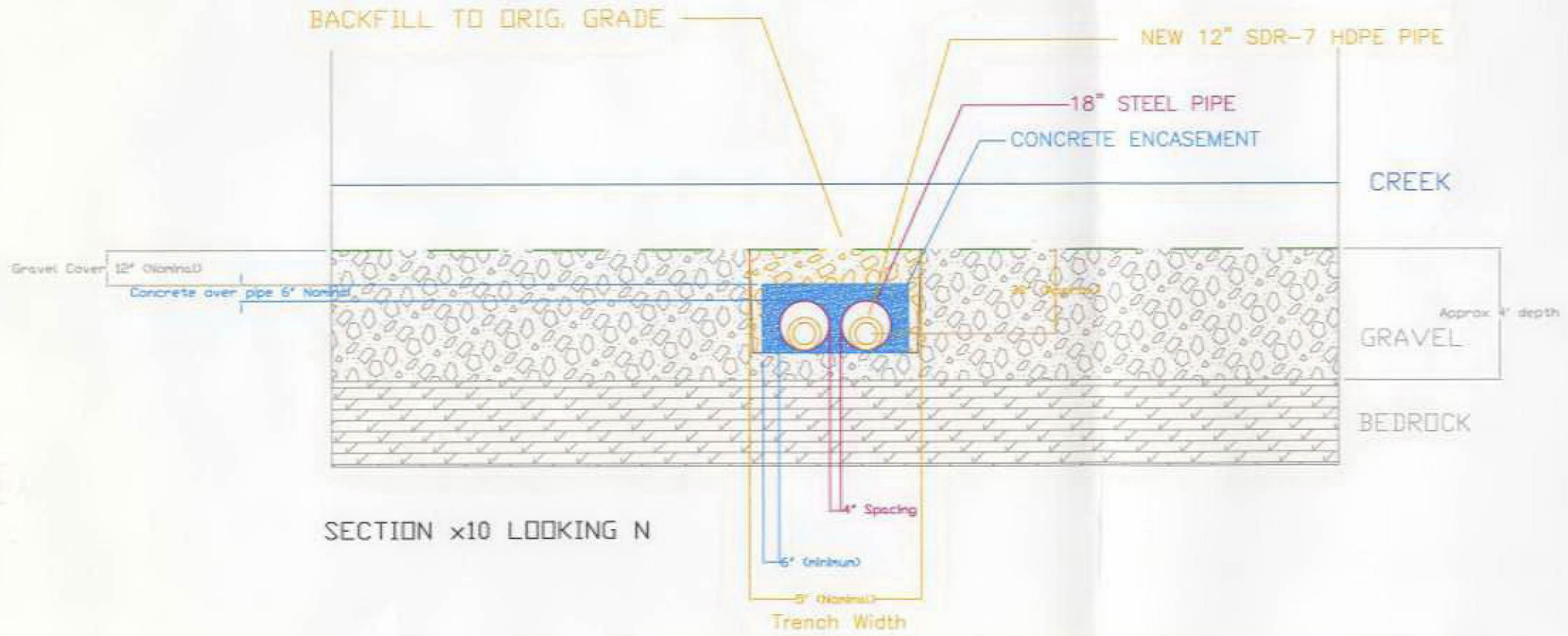
_____
Signature of Permittee

S

PROFILE LOOKING WEST

N





SECTION x10 LOOKING N

STATE OF OHIO
DONALD M. BRYANT
E-22449
REGISTERED
PROFESSIONAL ENGINEER

Donald M Bryant

1-27-05

CENTURY MINE

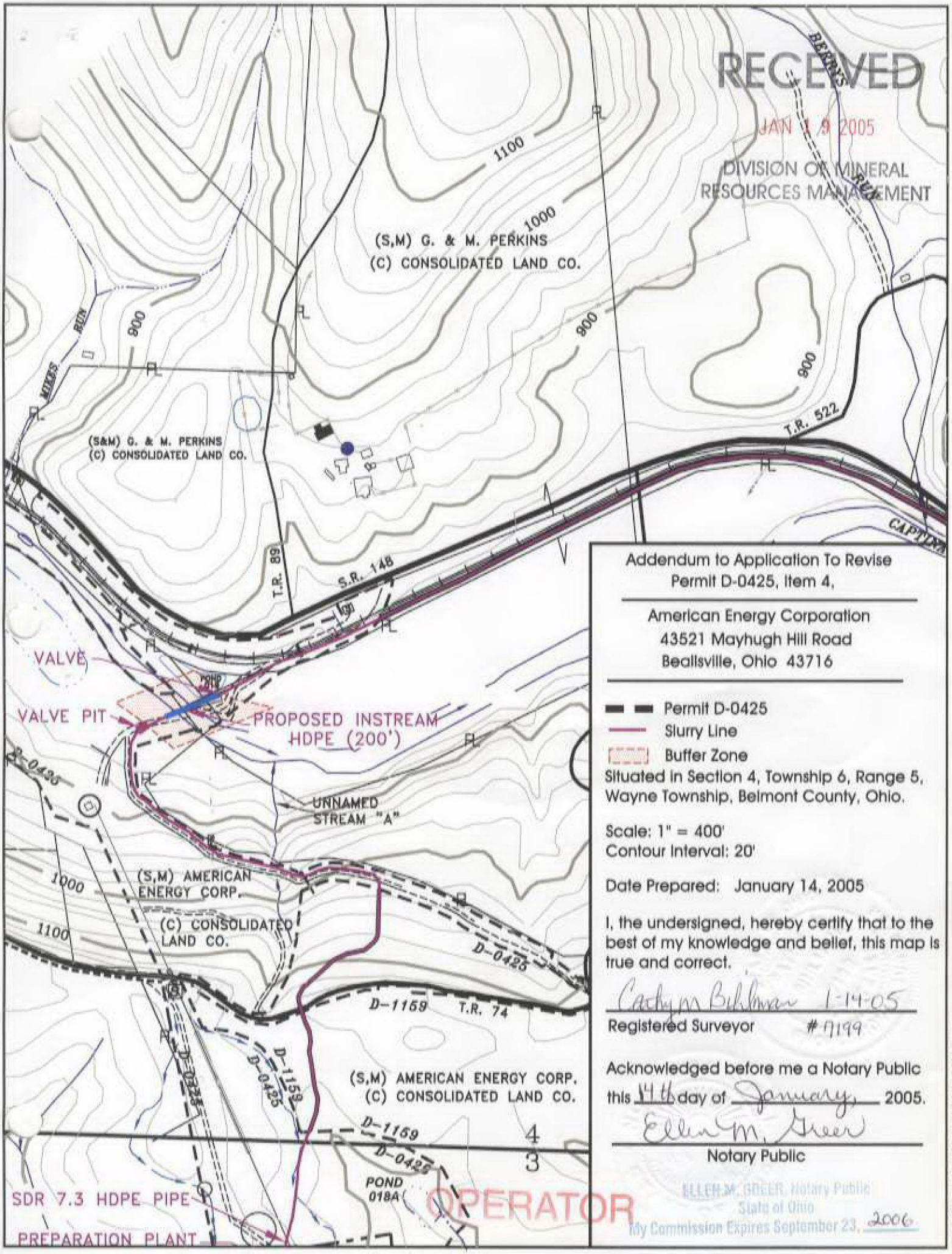
AMERICAN ENERGY CORP.
43521 MAYHUGH HILL ROAD, TWP. HWY. 88
BEALLSVILLE, OH 43716

Water/Slurry Line Crossing Captina Creek

12 January 2005

OPERATOR

AEC 08340



Addendum to Application To Revise
Permit D-0425, Item 4,

American Energy Corporation
43521 Mayhugh Hill Road
Beallsville, Ohio 43716

- Permit D-0425
- Slurry Line
- Buffer Zone

Situated in Section 4, Township 6, Range 5, Wayne Township, Belmont County, Ohio.

Scale: 1" = 400'
Contour Interval: 20'

Date Prepared: January 14, 2005

I, the undersigned, hereby certify that to the best of my knowledge and belief, this map is true and correct.

Cathryn Bibbee 1-14-05
Registered Surveyor #7199

Acknowledged before me a Notary Public this 14th day of January, 2005.

Ellen M. Greer
Notary Public

ELLEN M. GREER, Notary Public
State of Ohio
My Commission Expires September 23, 2006

DWG: DWG\SURFACE APP MAP.DWG

AEC 08341

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR — SAMUEL W. SPECK, DIRECTOR

Division of Mineral Resources Management
Dave Clark, Manager, Team South
2050 East Wheeling Avenue
Cambridge, OH 43725
Phone: (740) 439-9079 Fax: (740) 432-7711

October 8, 2004

Mr. Ron Burdette
American Energy Corp.
43521 Mayhugh Hill Road
Beallsville, OH 43716

RE: Slurry Line Crossing Failure at D-425

Dear Mr. Burdette:

As a result of the slurry line crossing failure at Captina Creek on Permit D-425, the Division of Mineral Resources Management will require AEC to complete the following items:

1. Provide for daily inspections of the damaged crossing with more frequent inspections during rainfall events. Division staff discussed the importance of these inspections during their initial inspection, and I need to follow-up to be sure that AEC was providing for, and is documenting the inspections at the crossing. The failed structure now creates an obstruction in the stream channel and floodplain, and AEC needs to be prepared to immediately remove any debris that accumulates on the structure or to correct any condition that further jeopardizes the structure.

2. Submit an analysis prepared and signed by a registered professional engineer that speaks directly to the integrity and stability of the damaged slurry line crossing and particularly to the slurry lines themselves. The Division must have assurances that AEC has examined the slurry lines and has determined that there is no risk of slurry line failure as a result of the crossing failure.

3. Provide the Division with a written response that details AEC's schedule for the repair, and/or replacement of the crossing. The Division would suggest that this schedule needs to include a time-line that facilitates a repair or replacement before the typical higher water levels and icing issues arrive this winter.

Please maintain the inspection log onsite and available for Division review. I would ask that the engineers report, along with the repair schedule, be directed to my attention in Cambridge no later than Wednesday, October 20, 2004. Please feel free to contact me if you have any questions.

Sincerely,

Dave Clark

Dave Clark, Regional Manager

PC: Joe Noonan, P.E.
John Puterbaugh
Jamie Judge
File

2/96

_____ New Submittal
__✓__ Revised Submittal R-425-15

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guideline for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name AMERICAN ENERGY CORPORATION

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone Number 740 - 926 - 9152

2. Permit Number D-0425

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 22, Item A(12)(d)
   Part 3, Page 27, Item G(5)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   This revision includes the plan to repair/replace the failed Slurry Line Captina Creek Stream Crossing. See attached addenda.

5. Describe in detail the reason for requesting the revision:

   This revision has been mandated by ODNR to update a previously approved I.B.R. for construction of a bridge, which was ultimately utilized for the slurry line stream crossing.

6. Will this revision constitute a significant alternation from the mining and reclamation operation contemplated in the original permit? _____ Yes, __X__ No.
   (**Note:** refer to paragraph (E) (2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes," complete the following items 7 through 9.

ADDENDUM

SLURRY LINE CREEK CROSSING, American Energy Corporation

A 5.1 Acre I.B.R. was submitted in February 2002, and approved in April, 2002 for construction of a bridge across Captina Creek. The bridge was not constructed as planned, and was consequently constructed in a modified manner to provide for the overhead slurry line crossing. The structure failed during the flooding that occurred in mid-September, 2004. The slurry line, with its steel casing protection did not fail, however, is lying in the creek bed.

American Energy Corporation has investigated directional drilling to place the slurry line below the creek. The cost for this option was quoted at a minimum of $158,000.00 minimum. (Total cost would depend on actual conditions encountered). This option is considered cost prohibitive.

Placement of the slurry line in the creek bed has also been investigated. The cost quoted for this option was $30,000.00. American Energy Corp. considers this option as the most timely, with construction commencing immediately upon permitting approvals and completion within one (1) week. The replaced portion of the slurry line will be placed within the stream bed material, above bedrock. The bedrock material will not be disturbed. See attached Water/Slurry Line Crossing Captina Creek profile and cross section.

American Energy Corp. is not considering replacing the slurry line crossing in the overhead position in response to the recent failure, and a possible future failure during a rainfall/flooding event.

The slurry line is constructed of SDR 7.3 high density polyethylene pipe. The SDR 7.3 pipe is a 12.75 inch outside diameter, with a minimum wall thickness of 1.747 inches. The SDR 7.3 pipe is one of the heaviest duty pipes made with a weight of 26.244 lbs./ft. See attached manufacturer's specifications, PIPE DATA, (Table A-1, Table A-2, and Table 2). The slurry pipe was fusion welded when installed. Fusion welds cannot be pulled apart.

Although there is no apparent structural damage or leakage within the slurry line currently lying in the creek bed, American Energy Corp. plans to replace the portion of the pipeline that crosses Captina Creek due to the remote possibility that this portion of the line may have been compromised during the failure of the bridging structure. Please see Statement of Conditions by Donald M. Brafford, P.E.

The slurry line is inspected daily, when in operation, and more frequently during

rainfall events. A pressure sensor is utilized to automatically shut the line down if a drop in pressure is detected. In the unlikely event that a rupture or leak is detected, the slurry line will be immediately shut down and repaired. If necessary repairs cannot be completed with slurry in the line, it can be emptied into the existing clay lined sump, which has the capacity necessary to hold the entire contents of the slurry line. The sump has an approximate capacity of 277,318 gallons, and the slurry line currently has a total maximum capacity of 232,389 gallons. The sump is located as shown in the approved 3.1 acre IBR-0425-8 (approved 07-01-2003).

The proposed in-stream replacement of the damaged pipelines is planned as follows;

A coffer dam/roadway (fill) will be constructed from one bank to approximately half-way across the stream. A trench will be dug through this fill and into the underlying gravel of the creek bed starting several feet back from the creek end of the fill. The steel casings will be installed in the trench. A 35,000 psi concrete, standard used by ODOT, will be poured over the steel casings. When the concrete has cured, it will be covered with the streambed material, with the end exposed. Then the other half of the coffer dam/roadway and trench will be constructed removing material from the first-half fill. The stream is now diverted over the first-half (completed) side of the crossing. The other steel culverts will be put in place and welded. Concrete will be poured over the casings, will cure, and be covered with the stream bed material. The HDPE pipe will then be pulled through the casings, already in place.

The mass of concrete, rigidity of the steel encasement, and the tension of the HDPE pipe lines attached at the north and south ends to the remainder of the pipeline will prevent the pipe crossing structure from moving downstream during storm events. The fact that the damaged structure in its current location has withstood a similar flooding event, with debris creating additional pressure from the upstream end, is proof of the strength of the steel encasement and HDPE pipe.

Spill prevention and containment for the stream crossing construction is as follows; the slurry line will be turned off, water will be flushed through the pipe. The valve south of the creek will be closed. The water remaining in the line will be emptied into the existing slurry line sump.

Abandonment of the slurry line will consist of rinsing the line, removing any portions of the line that are on the surface (above ground), and permanently capping any remaining underground portions of the line.

Addendum to Part 3, Page 27, Item G(5)
Stream Buffer Zone Variance Request
American Energy Corporation
Slurry Line Creek Crossing

Chief
ODNR, Division of Mineral Resources Management
2045 Morse Road - Bldg. H-3
Columbus, OH 43229-6693

Dear Chief:

SPECIFIC ACTIVITIES

Captina Creek

Activities to be conducted within the buffer zone of Captina Creek consist of the repair and placement of a slurry line and water line through the creek bed.

This line currently carries slurry from the Century Mine preparation plant to the approved refuse disposal facility on Permit D-0360, and was located on a bridge structure (previously described in the 5.1 acre I.B.R. approved 4/02) across the creek.

For purpose of description, the beginning point of Captina Creek, where the slurry line is within the buffer zone, is approximately 945 feet southeast (downstream) of the intersection of Mike's Run. Captina Creek is influenced upstream (including the North and South Forks) by residential and agricultural activities. Downstream influences include mining, residential, and agricultural. Previous influences from railroad facilities and mining have also occurred in this portion of the buffer zone of Captina Creek.

Existing instream physical habitat conditions consist of cobble and gravel of limestone and sandstone origin, with normal silt and embeddedness. Instream cover is moderate, with undercut banks, shallows, rootmats, and pools. The riparian width is narrow on the right bank and consists of forest, with heavy to severe bank erosion. Riparian width on the left bank is wide, consisting of shrub and old field with moderate bank erosion. Maximum depth is 0.7 to 1.0 meter. Pool width equals riffle width, with moderate to slow velocities. Riffle/run substrates are moderately stable large gravel with low embeddedness. Channel morphology shows low sinuosity, good development, recovered channelization, and moderate stability.

The replacement slurry and water lines will disturb ground within the buffer zone for a distance of approximately 45 feet on the left bank, and 100 feet on the right bank. A coffer dam will be constructed approximately one-half way across the stream channel to divert stream flow while half of the steel encasement replacement pipe is installed. This process will be repeated within the other half of the stream channel to place the remainder of the steel encasement pipe. An approximate 5 foot wide trench will be excavated across the stream channel to allow for placement of the pipe. See Addendum to A.R.P., Slurry Line Creek Crossing for details. Straw and/or hay bales, and if necessary, silt fence will be utilized during installation to prevent additional sediment contribution downstream. Installation of the replacement portion of the slurry line will take approximately two weeks, depending on weather conditions.

The instream portion of the slurry line will remain in place following reclamation. Any portion of the replacement line that is above ground will be removed.

Due to conditions resulting from the September, 2004, and January, 2005 flooding, riparian vegetation is nearly non-existent in the areas to be affected by the proposed repair and placement of the pipelines. Reconstruction of Captina Creek will not be necessary. The proposed five foot wide trench will be filled and covered as described in the Addendum to the A.R.P., Slurry Line Creek Crossing.

No wetlands are located within these portions of the buffer zone of Captina Creek.

NECESSITY OF ACTIVITIES

September flooding toppled the bridge supports, forcing the bridge structure, slurry line, and water line downstream. It currently rests just above the normal water level, causing debris to build up behind it. To prevent this situation from occurring in the future, American Energy Corporation is placing the slurry line through the creek bed, encased in steel and concrete. The repair and replacement of the damaged portion of the slurry line creek crossing should be considered an emergency situation. Although the line has remained intact, it is under a great deal of stress.

WATER QUALITY/QUANTITY AND ENVIRONMENTAL RESOURCES

Water quality in Captina Creek is good. Water analyses conducted for mine permitting show all parameters within effluent limitations. Captina Creek is a large perennial stream, originating from the Barnesville reservoir. Stream quantity ranges from; 9.0 cfs during low flow conditions, 28.6 cfs during intermediate flow conditions, and a high flow of 338 cfs. Prior to the September flooding event, riparian vegetation within the buffer zone consisted of ferns, wild garlic, and grasses such as oats, fescue, and timothy, with hardwoods such as oak, cottonwood, wild cherry, sycamore, buckeye, willow, and box elder. It will not be necessary to disturb trees during the repair of the slurry line.

SEQUENCING OF OPERATIONS

The slurry line will be turned off, water will be flushed through the pipe. The valve south of the creek will be closed. The water remaining in the line will be emptied into the existing slurry line sump. The damaged portion of the lines will be cut off. The damaged bridge structure will be removed. A coffer dam will be constructed, the stream will be trenched one-half at a time. Steel culvert encasement lines will be placed in the trench first, and concreted in place. When the concrete has cured, it be covered with the streambed material. The HDPE pipe will then be pulled through the in-place steel casings and fusion welded to the ends of the existing exposed line. When installation of the replacement line is complete, the area disturbed within the buffer zone will be regraded and revegetated.

STREAM RECONSTRUCTION, DIVERSION, OR RELOCATION

No stream reconstructions or relocations are proposed for this project. The temporary diversion of the stream necessary for placement of the pipes is described in the Addendum to the ARP, Slurry Line Stream Crossing. The issue of buffer zone affects and locations of activities are addressed in the previous sections of this document. Normal site maintenance will be carried on throughout the life of the associated mining operation.

Following the in-stream installation of the pipelines, flooding will no longer be a threat to the stability of the structure.

REVEGETATION

The following species and amounts of vegetation and /or trees and shrubs will be planted a minimum width of two and one half times the channel bottom width where any disturbance within the buffer zone has occurred.

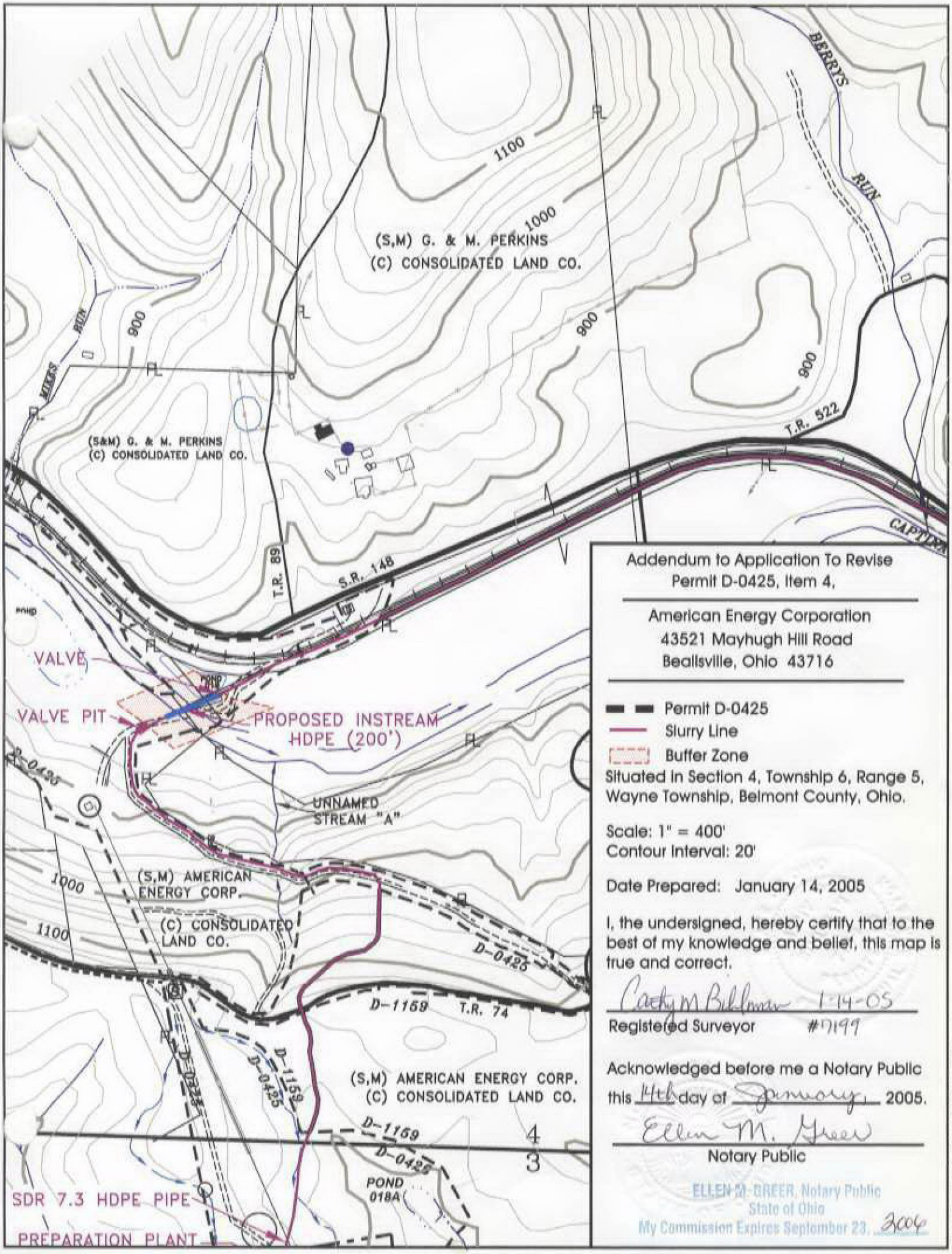
Species	Amounts/Rate (lbs./Ac.)
Grasses and Legumes	
Perennial Ryegrass	5 lbs./Ac.
Foxtail Millet	5 lbs./Ac.
Red Top	3 lbs./Ac.
Birdsfoot Trefoil	5 lbs./Ac.
Appalow Lespedeza	15 lbs./Ac.
Trees and Shrubs	
Green Ash, Sycamore, Button Bush	Rows will be spread four (4) feet apart, with a Staggered eight (8) foot spacing between Seedlings/cuttings.

Trees and shrubs will be planted as described above. Areas planted with riparian vegetation will not be cut or mowed so as to encourage the development of volunteer vegetation. Species of trees, shrubs, grasses and legumes which appear naturally will not be removed but will remain to enhance wildlife environment along the streams.

Care will be taken to disturb only that portion of the buffer zone necessary to accomplish the objectives of this project. All work within the buffer zone will be performed in a timely and workmanlike manner to avoid, as best can be accomplished, detrimental effects on the stream.

Yours truly,

Ellen Green



Addendum to Application To Revise Permit D-0425, Item 4,

American Energy Corporation
43521 Mayhugh Hill Road
Beallsville, Ohio 43716

- Permit D-0425
- Slurry Line
- Buffer Zone

Situated in Section 4, Township 6, Range 5, Wayne Township, Belmont County, Ohio.

Scale: 1" = 400'
Contour Interval: 20'

Date Prepared: January 14, 2005

I, the undersigned, hereby certify that to the best of my knowledge and belief, this map is true and correct.

Cathy M Billman 1-14-05
Registered Surveyor #7199

Acknowledged before me a Notary Public this 14th day of January, 2005.

Ellen M. Greer
Notary Public

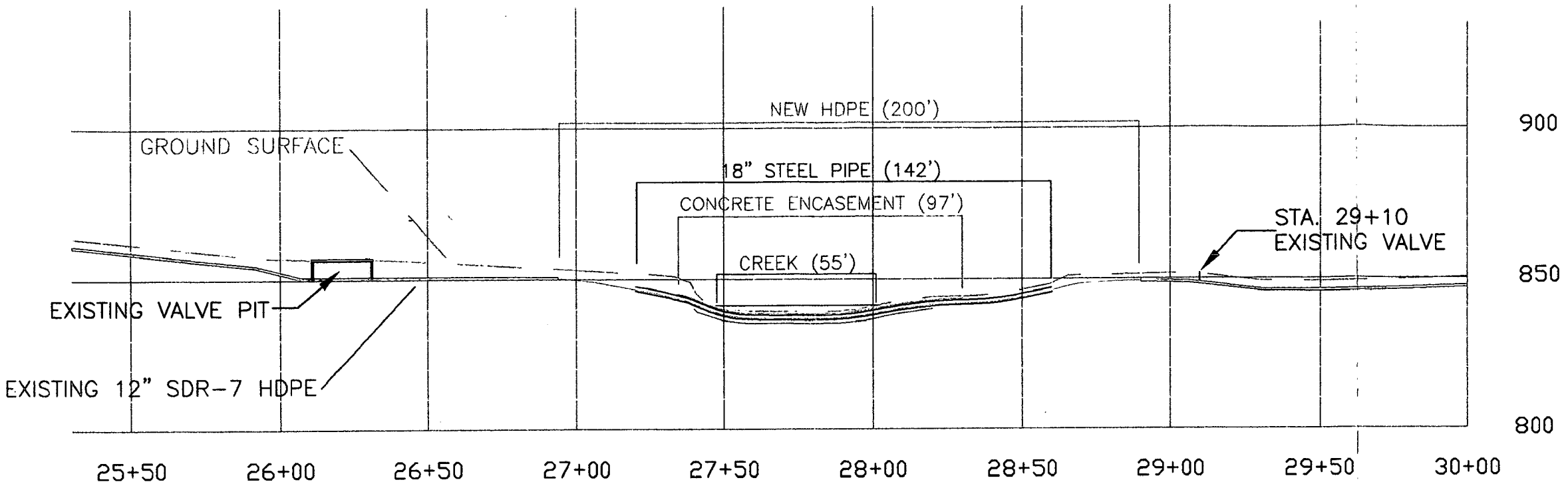
ELLEN M. GREER, Notary Public
State of Ohio
My Commission Expires September 23, 2006

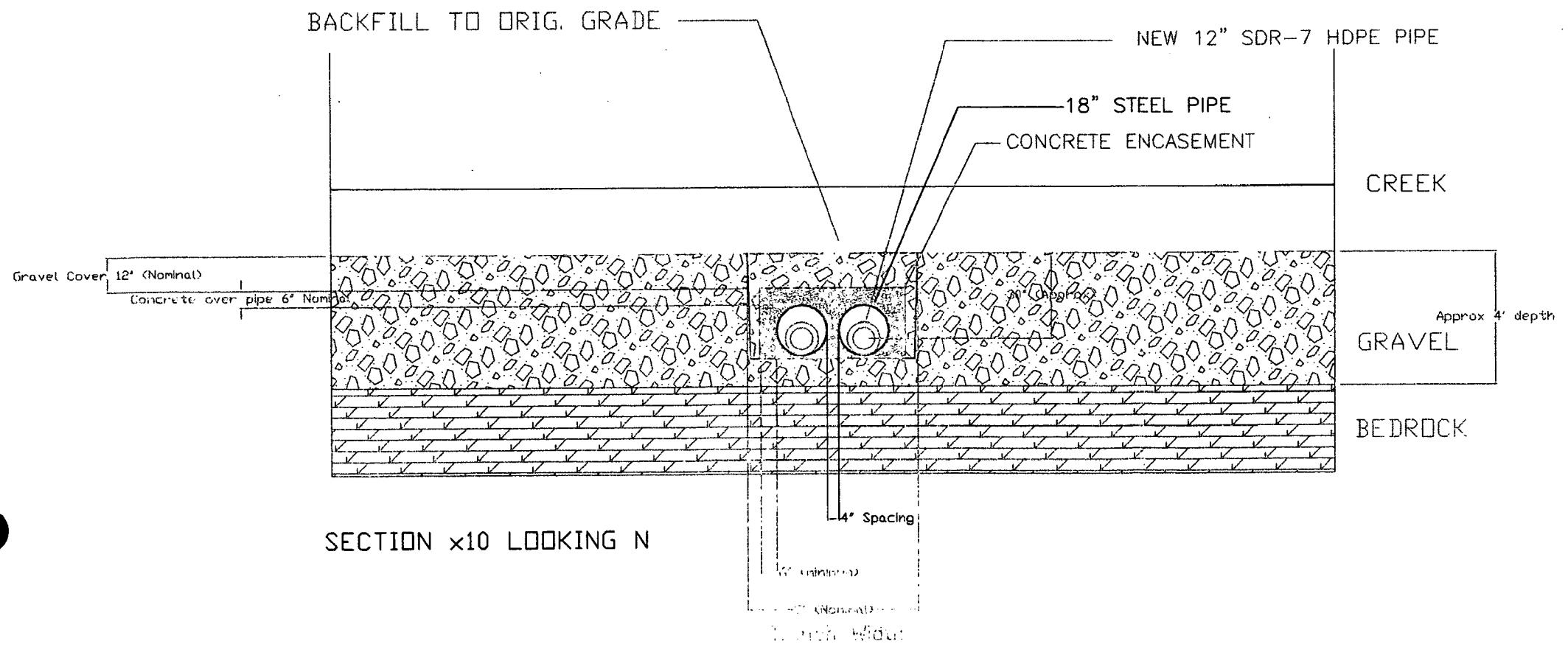
DWG:\Dwgs\SLURRY LINE ABP MAP.dwg

S

PROFILE LOOKING WEST

N





SECTION x10 LOOKING N

CENTURY MINE

AMERICAN ENERGY CORP.

43521 MAYHUGH HILL ROAD, TWP. HWY. 88
BEALLSVILLE, OH 43716

Water/Slurry Line Crossing Captina Creek

12 January 2005

AEC 08351

COAL MINING AND RECLAMATION PERMIT APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Beallsville, OH 43716

Telephone: (740) 926-9152

Permit Number: D-425
Application Number R-425-15

Effective: 01/26/2005
Expires: 10/21/2009

ARP Type:
Slurry Line

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: _____ **Date:** 01/26/2005
Chief, Mineral Resources Management

ORIGINAL

F100 Rev: 07/01/2001

2- 4-05; 4:24PM;Mines & Reclamation ;614 265 7999 # 2/ 4

2/96

_____ New Submittal
__✓__ Revised Submittal R-425-15

RECEIVED
JAN 19 2005
DIVISION OF MINERAL RESOURCES MANAGEMENT

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guideline for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name AMERICAN ENERGY CORPORATION

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone Number 740 - 926 - 9152

2. Permit Number D-0425

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 22, Item A(12)(d)
   Part 3, Page 27, Item G(5)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   This revision includes the plan to repair/replace the failed Slurry Line Captina Creek Stream Crossing. See attached addenda.

5. Describe in detail the reason for requesting the revision:

   This revision has been mandated by ODNR to update a previously approved I.B.R. for construction of a bridge, which was ultimately utilized for the slurry line stream crossing.

6. Will this revision constitute a significant alternation from the mining and reclamation operation contemplated in the original permit? _____ Yes, __X__ No.
   (**Note:** refer to paragraph (E) (2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes," complete the following items 7 through 9.

ORIGINAL

2- 4-05; 4:24PM;Mines & Reclamation :614 265 7999 # 3/ 4

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

   N/A

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A)(1) of 1501:13-05-01 of the Ohio Administrative Code.)

   N/A

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

   N/A

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my information and belief.

Robert D. Moore — Print Name
10/22/04 — Date

Signature
President — Title

Sworn before me and subscribed in my presence this 22nd day of October, 20 04

Denise R. Jackson
Notary Public

DENISE R. JACKSON
Notary Public, State of Ohio
My Commission Expires 9-27-2005

FOR DIVISION USE ONLY

This request is hereby APPROVED.

Michael L. Strausser by [illegible]
Chief, Division of Mines and Reclamation

1-26-05
Date

2- 4-05; 4:24PM;Mines & Reclamation ;614 265 7999 # 4/ 4

OHIO DEPARTMENT OF NATURAL RESOURCES
MINERAL RESOURCES MANAGEMENT

COAL MINING AND RECLAMATION PERMIT APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Twp Hwy 88
Beallsville, OH 43716

Telephone: (740) 926-9152

ARP Type:
Revise Subsidence Control Plan

Permit Number: D-425
Application Number R-425-18

Effective: 05/25/2006
Expires: 10/21/2009

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: Michael L. Sponsler by [illegible] **Date:** 05/25/2006
Chief, Mineral Resources Management

OPERATOR

F100 Rev: 07/01/2001

__X__ New Submittal
_____ Revised Submittal R- 425-18

OHIO DEPARTMENT OF NATURAL RESOURCES MAR - 6 2006
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guideline for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name American Energy Corporation

   Address 43521 Mayhugh Hill Road

   City Beallsville State Ohio Zip 43716

   Telephone Number 740 - 926 - 9152

2. Permit Number D-0425 .

3. Section of mining and reclamation plan to be revised:

   Application and Hydrology Map

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   The mine layout has been shifted such that the surface affectment due to subsidence has changed. See the attached maps

5. Describe in detail the reason for requesting the revision:

   The mine layout has been shifted such that the surface affectment due to subsidence has changed.

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? _____ Yes, __X__ No.
   (**Note:** refer to paragraph (E) (2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes", complete the following items 7 through 9.

OPERATOR

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A)(1) of 1501:13-05-01 of the Ohio Administrative Code.)

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my information and belief.

James R. Turner, Jr
Print Name

3/2/06
Date

Signature

TREASURER
Title

Sworn before me and subscribed in my presence this 2nd day of March, 2006

KATHY J. ROE
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 12-14-2009

Notary Public Kathy J Roe

FOR DIVISION USE ONLY

This request is hereby APPROVED.

Michael L. Sponsler
Chief, Division of Mineral Resources Management

Date 5-25-06

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

January 10, 2006

Melanie Murray
American Energy Corp.
43521 Mayhugh Hill Rd.
Beallsville, OH 43716

Dear Mrs. Murray:

The Division of Mineral Resources Management completed our review of your recent Application to Revise a Permit (ARP) #R-425-17 on January 10, 2006 in which you propose to modify your permitted mining and/or reclamation plan. The following revisions are required before we can further consider your request.

A. ARP Review

1. Provide a bulleted summary of the mitigation steps that will be carried out based on Dr. Luo's subsidence analysis of the water tower, electric towers, and communication towers. Revise the response in the application to identify these mitigation measures.

2. Revise the panel layout on the permit map to match the panel layout recommended by Dr. Luo to minimize subsidence impacts on the tower bases.

3. The report states that a detailed survey of the anchorage of the electric towers must be done to assess the subsidence and each of the 14 towers must be assessed individually. The bottom of page 14 of the report indicates that there has not been sufficient information provided to complete the evaluation. Provide information.

4. An engineer must certify the final mitigation plan.

Please submit the required revisions within thirty (30) days of this letter to avoid delays in our review of your proposal. Should you require additional time, please do not hesitate to contact me. Failure to submit the required revisions in a timely manner may result in your proposal being returned without further action.

Sincerely,

Treva J. Knasel
Application Manager
Permitting, Hydrology & Bonding Section

c: Joe Noonan
John Puterbaugh
File

DNR 0001

AEC 08358

__X__ New Submittal
_____ Revised Submittal R-

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guideline for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name American Energy Corporation

   Address 43521 Mayhugh Hill Road

   City Beallsville State OH Zip 43933

   Telephone Number 740 - 926 - 9152

2. Permit Number D-0425 .

3. Section of mining and reclamation plan to be revised:
   Part 3, Page 30, K (5) and (7)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   Submit a subsidence plan for the D-0425-5 permit

5. Describe in detail the reason for requesting the revision:

   To obtain permission to subside structures in the shadow area by submitting a report from Dr. Yi Luo.

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? _____ Yes, __X__ No.
   (**Note:** refer to paragraph (E) (2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes", complete the following items 7 through 9.

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A)(1) of 1501:13-05-01 of the Ohio Administrative Code.)

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my information and belief.

JAMES R TURNER, JR — 10-24-05
Print Name — Date

Signature — TREASURER
Signature — Title

Sworn before me and subscribed in my presence this 24th day of October, 2005

BARBARA L. RUSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-09-09

Barbara L. Rush
Notary Public

FOR DIVISION USE ONLY

This request is hereby _____.

_____
Chief, Division of Mines and Reclamation — Date

COAL MINING AND RECLAMATION PERMIT
APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Twp Hwy 88
Beallsville, OH 43716

Telephone: (740) 926-9152

ARP Type:
Quarterly Monitoring Sites (QMR) - Addition
Quarterly Monitoring Sites (QMR) - Deletion

Permit Number: D-425
Application Number R-425-19

Effective: 10/03/2007
Expires: 10/21/2009

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: Scott R Kell **Date:** 10/03/2007
Chief, Mineral Resources Management

F100 Rev: 07/01/2001

OPERATOR

✓ New Submittal
____ Revised Submittal R- 425-19

RECEIVED
FEB - 1 2007
DIVISION OF MINERAL RESOURCES MANAGEMENT

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the division's "General Guidelines for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name **American Energy Corporation**

   Address **43521 Mayhugh Hill Road**

   City **Beallsville** State **Ohio** Zip **43716**

   Telephone Number **740-926-9152**

2. Permit Number **D-0425**

3. Section of mining and reclamation to be revised:

   Part 3, F(3)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc:

   Monitoring wells CG-01-5A, CG-01-5B, and CG-01-5C are being abandoned.

5. Describe in detail the reason for requesting the revision:

   The above referenced monitoring wells are being properly abandoned to allow for additional refuse disposal. New monitoring wells, CG-06-01-S and CG-06-01D, have been installed approximately 1475 feet southeast, at comparable surface elevations, to replace the above referenced wells to be abandoned.

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? ☐ Yes, ☒ No.
   (**Note:** refer to paragraph (E)(2) of 1501:13-04-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes," complete the following items 7 through 9.

7. In the space below, give the name and address of the newspaper in which the public notice is to be published.

8. In the space below, give the text of the public notice that is to be published. (Include the information required by paragraph (A)(1) of 1501:13-05-01 of the Ohio Administrative Code.)

OPERATOR

9. In the space below, give the name and address of the public office where this application is to be filed for public viewing.

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my information and belief.

Print Name Ryan M. Murray Title General Manager

Signature Ry M. Murray Date 02/05/07

Sworn before me and subscribed in my presence this 5th day of February, 2007

TERESA L. BEAL
Notary Public, State of Ohio
My Commission Expires 4/25, 2010
Recorded in Monroe County

Teresa L Beal
Notary Public

(For Division Use Only)

This application for renewal is hereby ☒ issued, ☐ disapproved.

Scott R Kull
Chief, Division of Mineral Resources Management

10-3-07
Date

MONITOR WELL INSTALLATION LOG

HYDROGEOLOGIC INVESTIGATION - COARSE COAL REFUSE DISPOSAL FACILITY
CENTURY MINE
SECTION 3, WAYNE TOWNSHIP, BELMONT CO., OHIO

Well No.: CG-01-5A

Collar Elevation (feet, msl): 1161.07
Location: N 695,518.10 E 2,412,309.91
Date Started: 12 March 2001
Date Completed: 20 March 2001
Water Depth: 203.12 feet
Water Elevation: 957.95 feet, msl

Well Materials List

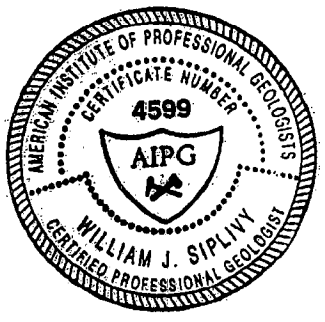
1. Well casing: 2" ID, Sch 40 PVC
2. Joint type: Flush thread
3. Grout type: Bentonite
4. Grout quantity: 56 bags
5. Well screen: 2" ID, 10 LF
6. Screen type: Machine cut Sch 40 PVC
7. Slot size: 0.010
8. Bentonite seal: Bentonite pellets, 1 bucket
9. Filter pack type: 430 silica stone
10. Filter pack quantity: 4 bags
11. Installation method: Gravity

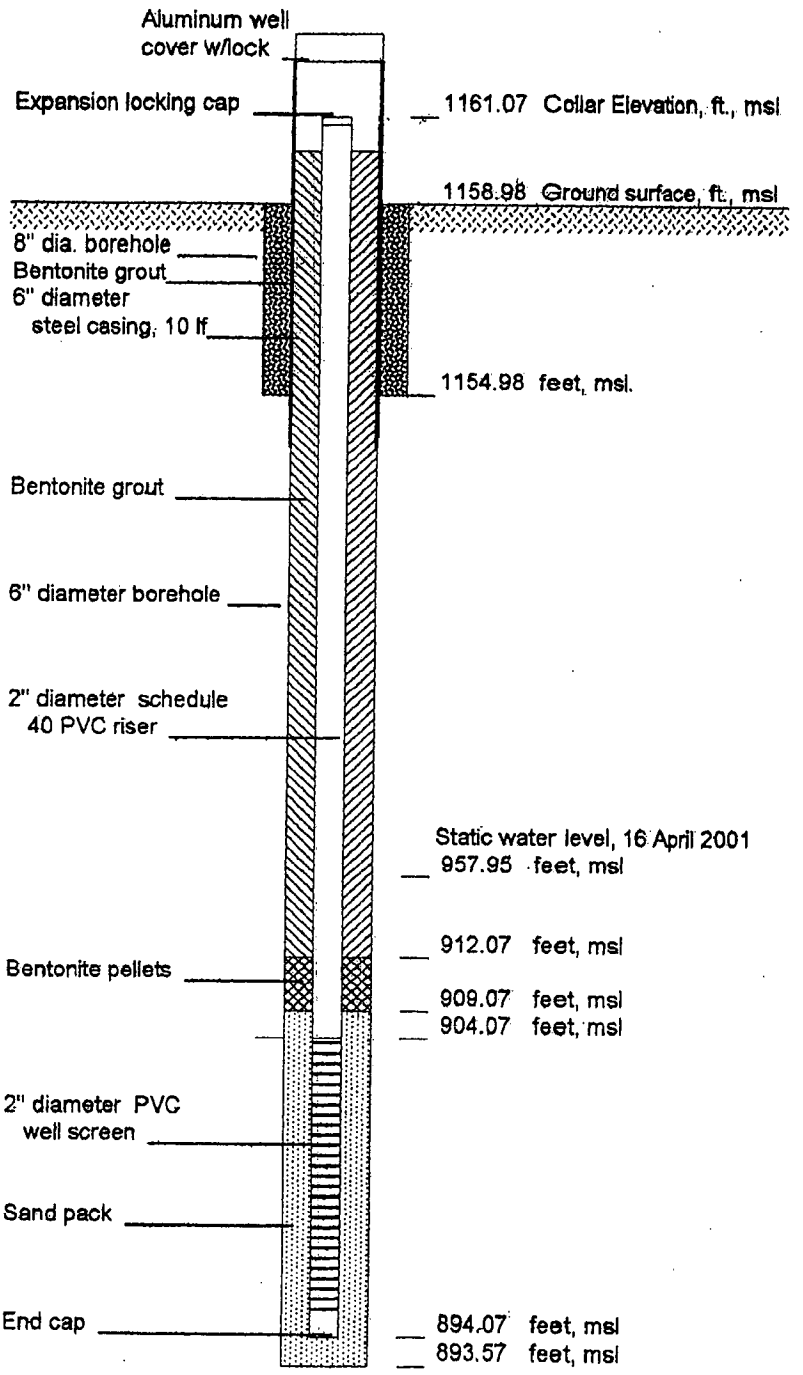
Drilling

1. Contractor: McKay & Gould, Drilling, Inc.
2. Driller: Randy McKay
3. Method: Air rotary, 6 & 8" diameter
4. Weather: Partly cloudy w/rain, high 30's
5. Supervision: William J. Siplivy

Respectfully submitted,

William J. Siplivy
Certified Professional Geologist
No. 4599, AIPG





CG-01-5A.WK4

WJS

AEC 08364

MONITOR WELL INSTALLATION LOG

HYDROGEOLOGIC INVESTIGATION - COARSE COAL REFUSE DISPOSAL FACILITY
CENTURY MINE
SECTION 3, WAYNE TOWNSHIP, BELMONT CO., OHIO

RECEIVED
FEB - 7 2007
DIVISION OF
RESOURCES MANAGEMENT

Well No.: CG-01-5B

Collar Elevation (feet, msl): 1160.16
Location: N 695,537.87 E 2,412,307.73
Date Started: 20 March 2001
Date Completed: 20 March 2001
Water Depth: 77.06 feet
Water Elevation: 1083.1 feet, msl

Well Materials List

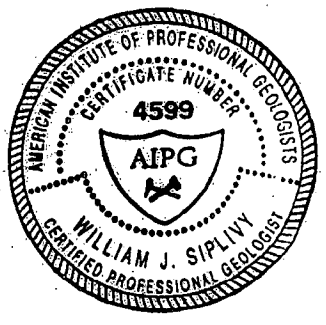
1. Well casing: 2" ID, Sch 40 PVC
2. Joint type: Flush thread
3. Grout type: Bentonite
4. Grout quantity: 14 bags
5. Well screen: 2" ID, 10 LF
6. Screen type: Machine cut Sch 40 PVC
7. Slot size: 0.010
8. Bentonite seal: Bentonite pellets, 1 bucket
9. Filter pack type: 430 silica stone
10. Filter pack quantity: 3 bags
11. Installation method: Gravity

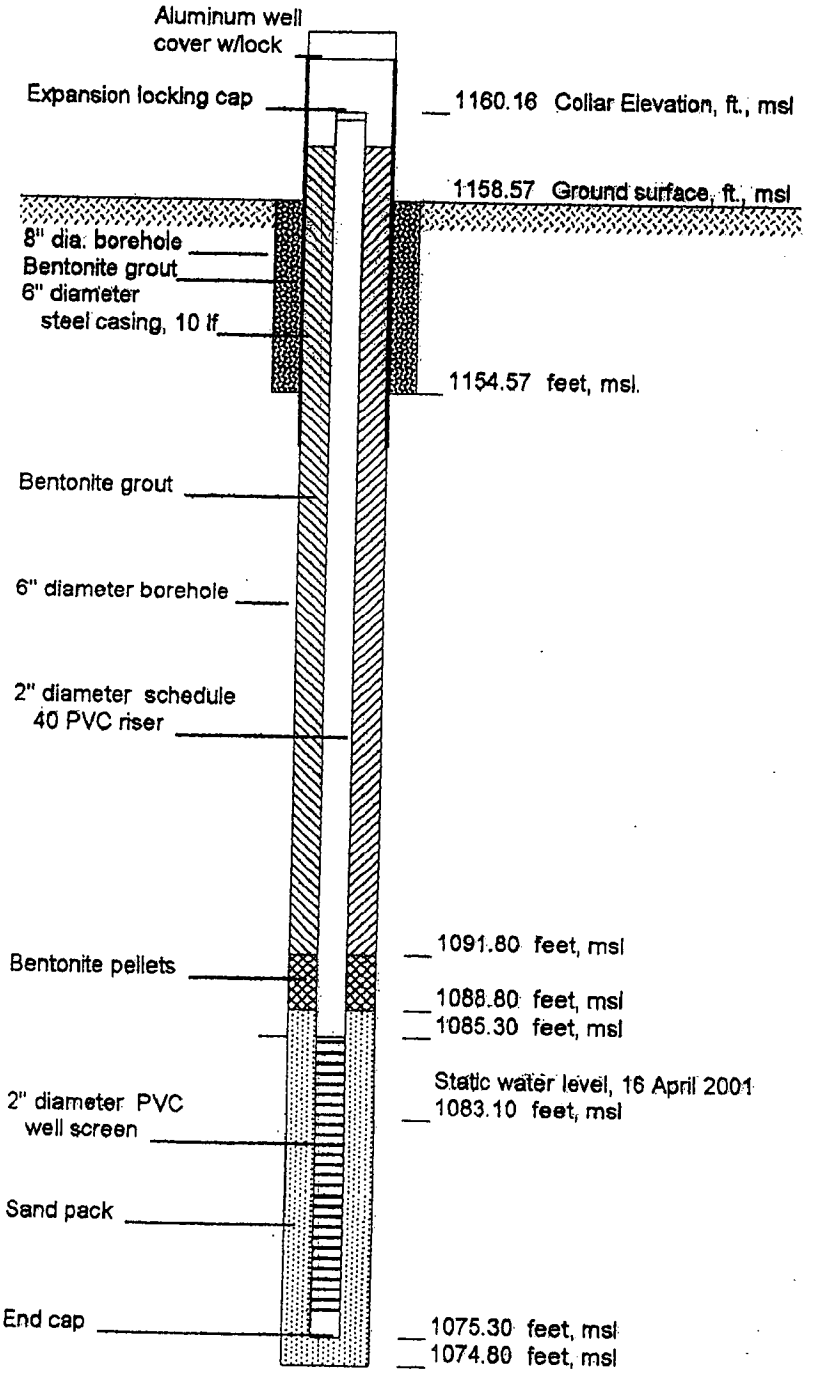
Drilling

1. Contractor: McKay & Gould, Drilling, Inc.
2. Driller: Randy McKay
3. Method: Air rotary, 6 & 8" diameter
4. Weather: Partly cloudy, high 40's
5. Supervision: William J. Siplivy

Respectfully submitted,

William J. Siplivy
Certified Professional Geologist
No. 4599, AIPG





CG-01-5B.WK4

WJS

MONITOR WELL INSTALLATION LOG

HYDROGEOLOGIC INVESTIGATION - COARSE COAL REFUSE DISPOSAL FACILITY
CENTURY MINE
SECTION 3, WAYNE TOWNSHIP, BELMONT CO., OHIO

RECEIVED
FEB - 7 2007
DIVISION OF
RESOURCES MAN.

Well No.: CG-01-5C

Collar Elevation (feet, msl): 1160.86
Location: N 695,528.14 E 2,412,308.76
Date Started: 20 March 2001
Date Completed: 20 March 2001
Water Depth: 7.24 feet
Water Elevation: 1153.62 feet, msl

Well Materials List

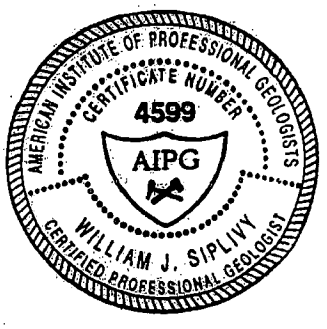
1. Well casing: 2" ID, Sch 40 PVC
2. Joint type: Flush thread
3. Grout type: Bentonite
4. Grout quantity: 2 bags
5. Well screen: 2" ID, 10 LF
6. Screen type: Machine cut Sch 40 PVC
7. Slot size: 0.010
8. Bentonite seal: Bentonite pellets, 1 bucket
9. Filter pack type: 430 silica stone
10. Filter pack quantity: 5 bags
11. Installation method: Gravity

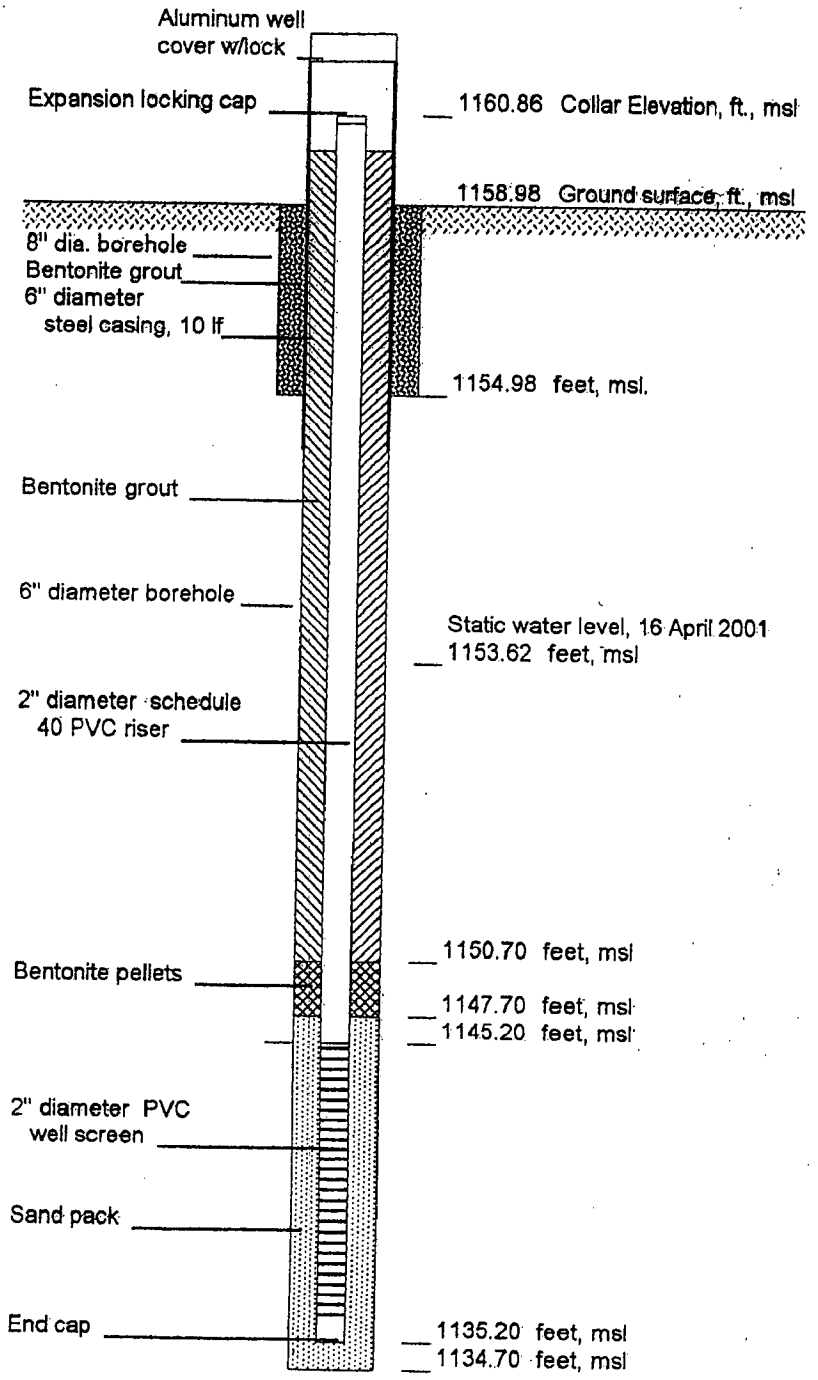
Drilling

1. Contractor: McKay & Gould, Drilling, Inc.
2. Driller: Randy McKay
3. Method: Air rotary, 6 & 8" diameter
4. Weather: Partly cloudy, high 40's
5. Supervision: William J. Siplivy

Respectfully submitted,

William J. Siplivy
Certified Professional Geologist
No. 4599, AIPG





CG-01-5C.WK4

WJS

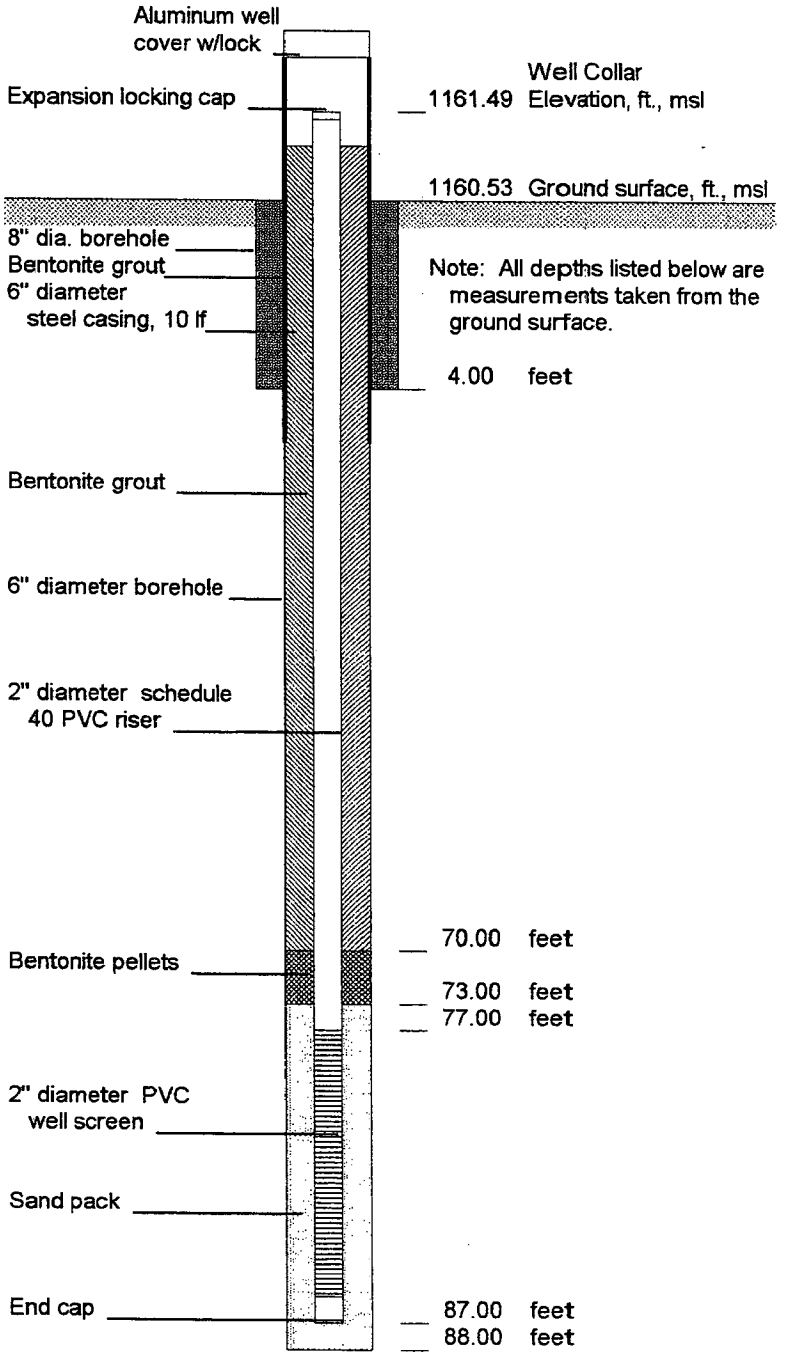
MONITOR WELL INSTALLATION LOG

FEB 7 2007
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNER: AMERICAN ENERGY CORPORATION
PROJECT: HYDROGEOLOGIC INVESTIGATION - No. 2 COARSE COAL REFUSE DISPOSAL AREA
LOCATION: SECTION 3, WAYNE TOWNSHIP, BELMONT COUNTY, OHIO

Well No.: CG-06-1S

Collar Elevation (feet, msl): 1161.49
Location: N 694,168.20 E 2,412,882.12
Date Started: 20 July 2006
Date Completed: 20 July 2006
Well Depth * (feet): 88.00
Groundwater Depth * (feet): 82.93
Water Elevation (feet, msl): 1078.56



Well Materials List

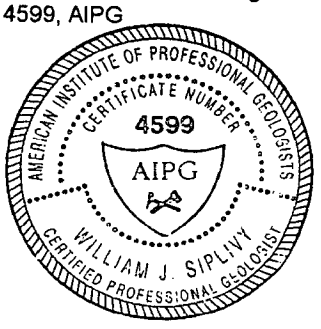
1. Well casing: 2" ID, Sch 40 PVC
2. Joint type: Flush thread
3. Grout type: Bentonite
4. Grout quantity: 16 bags
5. Well screen: 2" ID, 10 LF
6. Screen type: Machine cut Sch 40 PVC
7. Slot size: 0.010
8. Bentonite seal: Bentonite pellets, 1 bucket
9. Filter pack type: 430 silica stone
10. Filter pack quantity: 3 bags
11. Installation method: Gravity

Drilling

1. Contractor: McKay & Gould Drilling, Inc.
2. Driller: Randy McKay
3. Method: Air rotary, 6 & 8" diameter
4. Weather: Sunny, mid 80's
5. Supervision: William J. Siplivy

Respectfully submitted,

William J. Siplivy
Certified Professional Geologist
No. 4599, AIPG



Note: (*) Well depth and depth to groundwater measured from well collar (top of 2" PVC riser pipe).
Static groundwater level measured on 7 August 2006.

MONITOR WELL INSTALLATION LOG

OWNER: AMERICAN ENERGY CORPORATION
PROJECT: HYDROGEOLOGIC INVESTIGATION - No. 2 COARSE COAL REFUSE DISPOSAL AREA
LOCATION: SECTION 3, WAYNE TOWNSHIP, BELMONT COUNTY, OHIO

Well No.: CG-06-1D

Collar Elevation (feet, msl): 1160.80
Location: N 694,163.63 E 2,412,892.27
Date Started: 19 July 2006
Date Completed: 20 July 2006
Well Depth * (feet): 137.00
Groundwater Depth * (feet): 127.00
Water Elevation (feet, msl): 1033.80

Well Materials List

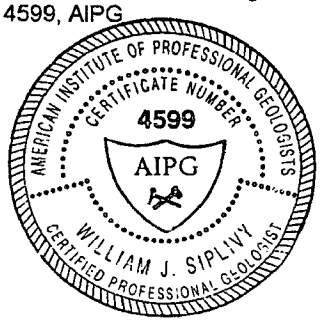
1. Well casing: 2" ID, Sch 40 PVC
2. Joint type: Flush thread
3. Grout type: Bentonite
4. Grout quantity: 26 bags
5. Well screen: 2" ID, 10 LF
6. Screen type: Machine cut Sch 40 PVC
7. Slot size: 0.010
8. Bentonite seal: Bentonite pellets, 1 bucket
9. Filter pack type: 430 silica stone
10. Filter pack quantity: 3 bags
11. Installation method: Gravity

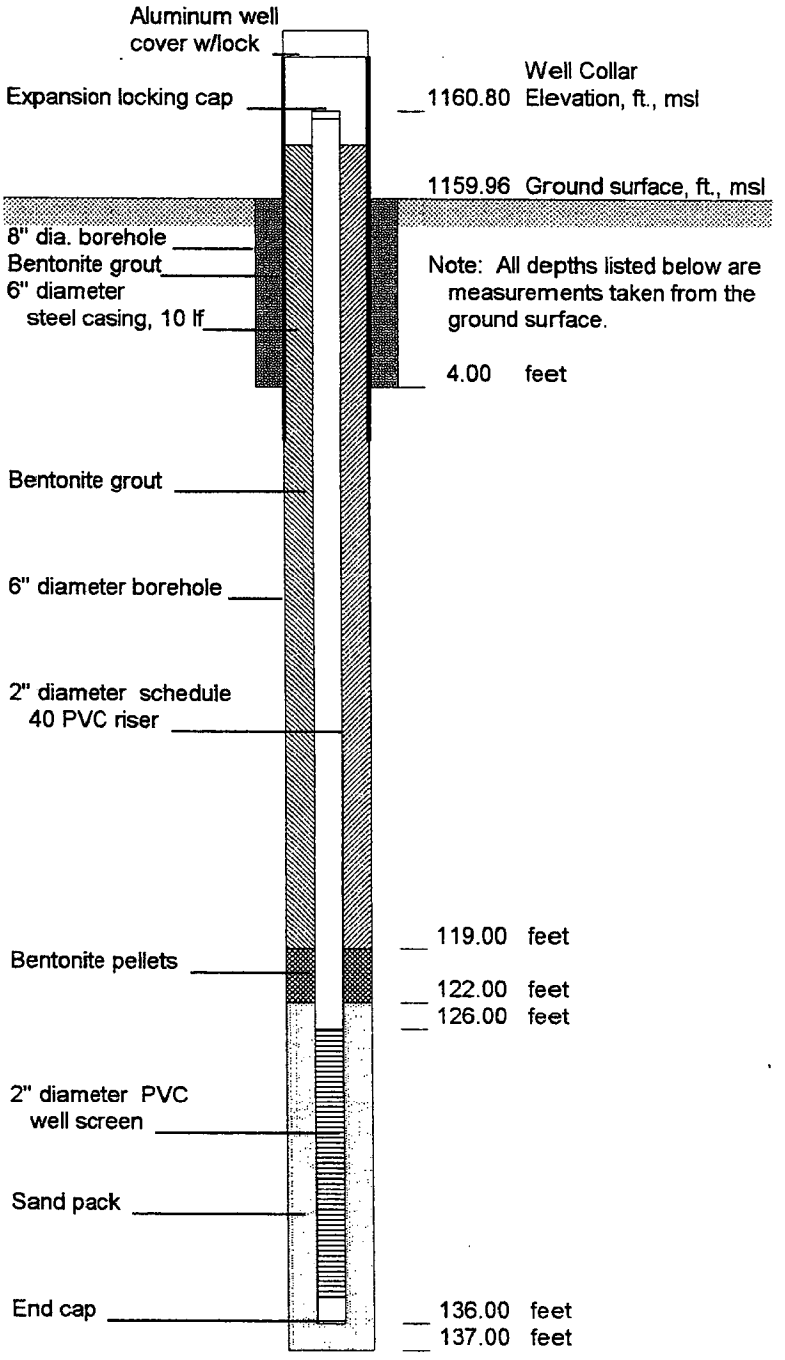
Drilling

1. Contractor: McKay & Gould Drilling, Inc.
2. Driller: Randy McKay
3. Method: Air rotary, 6 & 8" diameter
4. Weather: Sunny, mid 80's
5. Supervision: William J. Siplivy

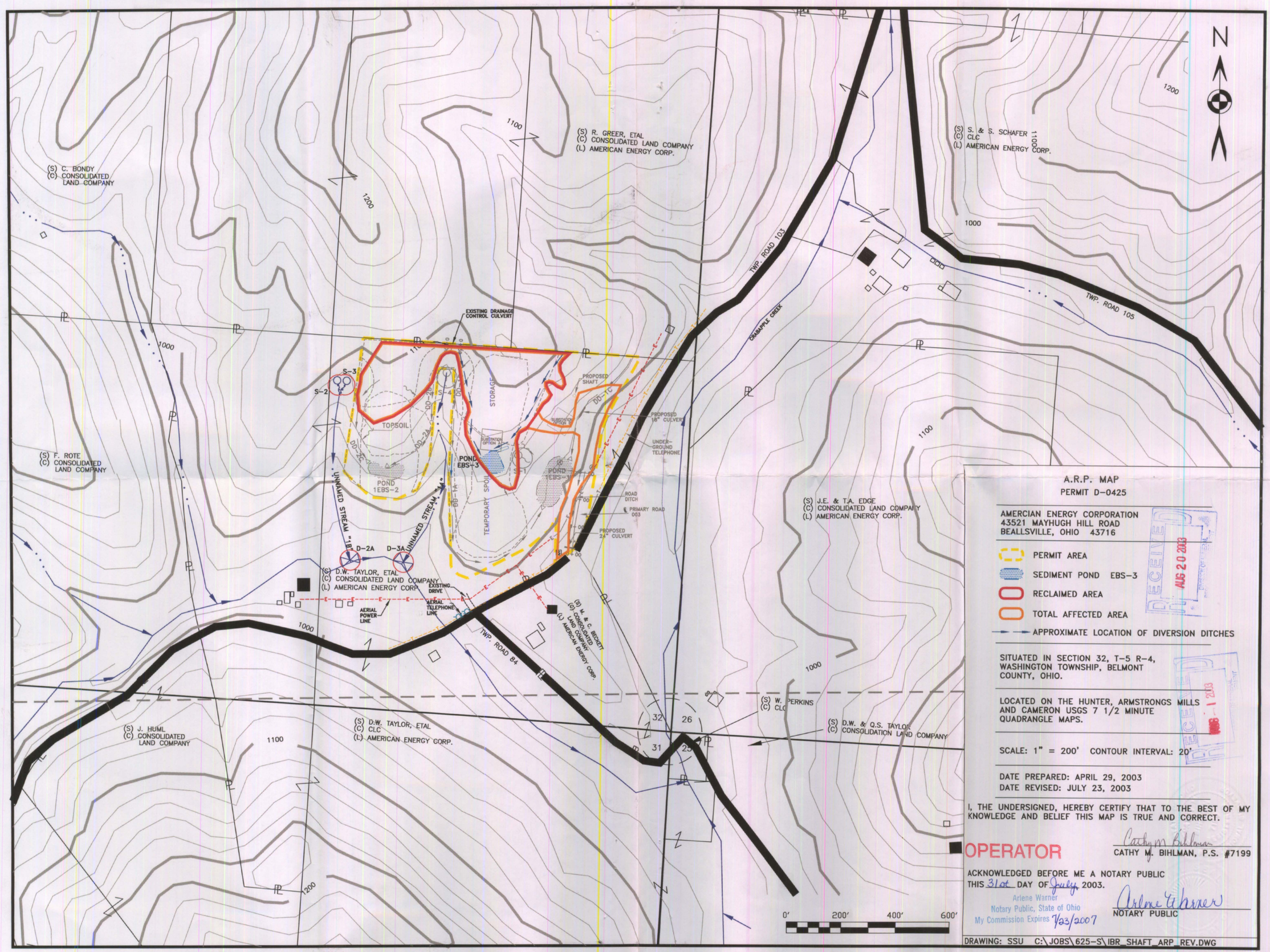
Respectfully submitted,

William J. Siplivy
Certified Professional Geologist
No. 4599, AIPG





Note: (*) Well depth and depth to groundwater measured from well collar (top of 2" PVC riser pipe).
Static groundwater level measured on 7 August 2006.



A.R.P. MAP
PERMIT D-0425

AMERICAN ENERGY CORPORATION
43521 MAYHUGH HILL ROAD
BEALLSVILLE, OHIO 43716

- PERMIT AREA
- SEDIMENT POND EBS-3
- RECLAIMED AREA
- TOTAL AFFECTED AREA
- APPROXIMATE LOCATION OF DIVERSION DITCHES

SITUATED IN SECTION 32, T-5 R-4, WASHINGTON TOWNSHIP, BELMONT COUNTY, OHIO.

LOCATED ON THE HUNTER, ARMSTRONGS MILLS AND CAMERON USGS 7 1/2 MINUTE QUADRANGLE MAPS.

SCALE: 1" = 200' CONTOUR INTERVAL: 20'

DATE PREPARED: APRIL 29, 2003
DATE REVISED: JULY 23, 2003

I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

Cathy M. Bihlman
CATHY M. BIHLMAN, P.S. #7199

OPERATOR

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC THIS 31st DAY OF July 2003.

Arlene Warner
Notary Public, State of Ohio
My Commission Expires 7/23/2007

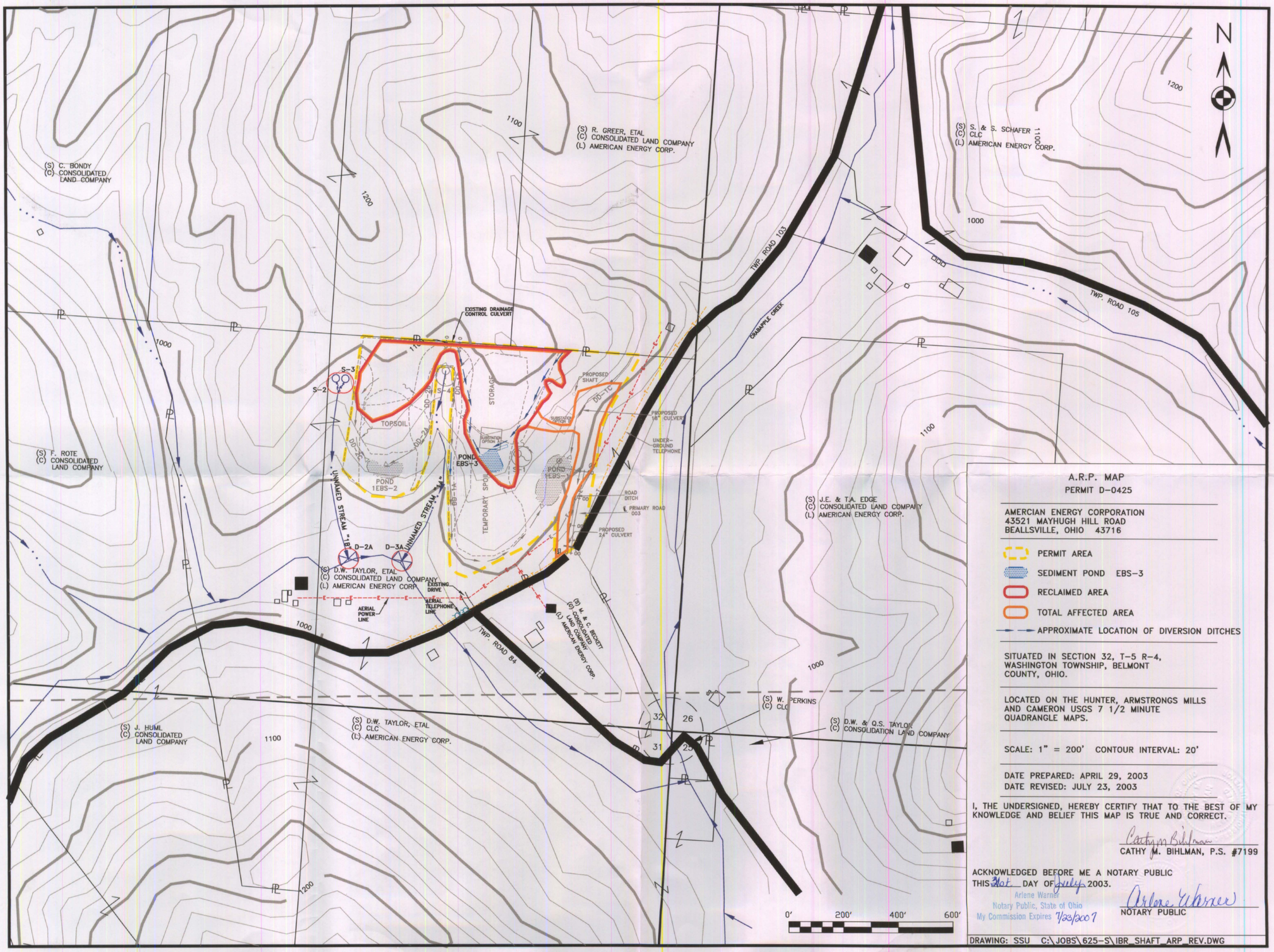
Arlene Warner
NOTARY PUBLIC

RECEIVED AUG 20 2003 DIVISION OF MINERAL RESOURCES MANAGEMENT

RECEIVED AUG 1 2003

DRAWING: SSU C:\JOBS\625-S\IBR_SHAFT_ARP_REV.DWG

AEC 08369



A.R.P. MAP
PERMIT D-0425

AMERICAN ENERGY CORPORATION
43521 MAYHUGH HILL ROAD
BEALLSVILLE, OHIO 43716

- PERMIT AREA
- SEDIMENT POND EBS-3
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Cathy M. Bihlman
CATHY M. BIHLMAN, P.S. #7199

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC
THIS 31st DAY OF July 2003.

Arlene Warner
Notary Public, State of Ohio
My Commission Expires 7/23/2007

Arlene Warner
NOTARY PUBLIC

DRAWING: SSU C:\JOBS\625-S\IBR_SHAFT_ARP_REV.DWG

AEC 08370